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### CONTENTS

| ORIGINAL ARTICLES  | PAGE |   | PAGE |
|--|------|---|------|
| Indications for Use of Therapeutic Pneumothorax. Herbert M. Rich, M. D.              | 55   | Acute Complete Inversion of the Uterus. L. W. Haynes, M. D.                                       | 75   |
| The Treatment of Mild Diabetes Mellitus. Phil. L. Marsh, M. D.                       | 56   | Radium Treatment in Cancer of the Cervix. Clark D. Brooks, M. D., Wm. R. Clinton, M. D.           | 80   |
| Chronic Mastoiditis. Doctors Sleight and Haughey                                     | 61   | Carcinoma of the Breast, Its Combined Treatment, Surgery, X-Ray and Radium. Wm. J. Cassidy, M. D. | 83   |
| Indications for Radium Therapy in Ophtho-otolaryngology. R. E. Loucks, M. D.         | 63   | The 1922 Cancer Week Campaign in Detroit. Harry C. Saltzstein, M. D.                              | 85   |
| X-Ray Treatment in the Diseases of the Ear, Nose and Throat. William A. Evans, M. D. | 65   | Present Day Conceptions of the Metabolism and Treatment of Diabetes. Bruce C. Lockwood, M. D.     | 87   |
| True Eclampsia and Renal Eclampsia. Walter E. Welz, M. D., F. A. C. S.               | 71   |   |      |

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**CONTENTS—Continued**

|                                      |    |
|--------------------------------------|----|
| <b>ANNUAL MEETING OF THE COUNCIL</b> |    |
| Official Minutes.....                | 93 |

**EDITORIALS**

|   |     |
|---|-----|
| Opinions on Nurse Training.....               | 101 |
| Special Train to Frisco—A. M. A. Meeting..... | 101 |
| Dues—1923 .....                               | 102 |
| Statement .....                               | 102 |
| The Council Meeting.....                      | 102 |
| Sheppard-Towner Bill.....                     | 103 |
| Editorial Comment .....                       | 105 |
| Correspondence .....                          | 106 |

**STATE AND SOCIETY NEWS**

|   |     |
|---|-----|
| State News Notes.....                           | 107 |
| Joint Committee of Public Health Education..... | 109 |
| Hillsdale County.....                           | 109 |
| Mecosta County.....                             | 110 |
| Shiawassee County.....                          | 110 |
| Kalamazoo-Allegan-Van Buren County.....         | 110 |
| Calhoun County.....                             | 110 |
| Oakland County.....                             | 111 |

**BOOK REVIEWS**

|  |     |
|--|-----|
| A Text-Book on Human Physiology. A. P. Brubaker .....                              | 111 |
| An Introduction to the Practice of Preventive Medicine. J. G. Fitzgerald.....      | 111 |
| Regional Anesthesia—Its Practice and Clinical Application. Gaston Labat, M. D..... | 112 |
| Text-Book of Pediatrics. Prof. E. Freer.....                                       | 112 |
| Obstetrics for Nurses. Everett Dudley Plass, M. D. ....                            | 112 |
| The Medical Clinics of North America (San Francisco Number).....                   | 112 |
| The Medical Clinics of North America (St. Louis Number) .....                      | 112 |

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### *Original Articles*

#### INDICATIONS FOR USE OF THERAPEUTIC PNEUMOTHORAX\*

HERBERT M. RICH, M. D.  
DETROIT, MICH.

Therapeutic Pneumothorax has established itself firmly as a valuable resource in pulmonary disease. Advocated for many years as useful, it was finally made less dangerous and more practical by Saugman of Copenhagen, who added the manometer to a simple water-pressure apparatus. The incision advocated by Brauer has been discarded as unnecessary. So in uncomplicated cases the procedure is now short, safe, painless and often life-saving. Its results are so satisfactory in successful cases that the indications for its use should be well understood by the profession at large.

Its greatest usefulness, so far as the aggregate number of cases is concerned, is in pulmonary tuberculosis. The classical indication here is severe phthisis of one lung with the other lung free from signs of advanced disease. These cases represent a distinct group by no means small. They are usually cases developing from the hilus and not the purely apical type which is only too often strictly bilateral from the first. The extent of the disease in the affected lung of the unilateral case does not stand in the way of a successful result from compression, except as pleural adhesions may prevent the collapse. Cavities, caseation, hemorrhagic ulcerations all heal with time in cases where sufficient collapse can be maintained.

The real question is often the "good" lung. It seems never entirely free from disease. And herein lies much of the skill in management of pneumothorax as a therapeutic measure. With the diseased lung entirely collapsed the entire work of respiration falls on the good lung. Care must be taken not to throw too much suddenly on this lung, but rather to gradually increase the amount of work it is to

do and thus allow it to accommodate itself to the increased load. Cyanosis is ordinarily a sign of overloading of the good lung and compression of the bad lung should not be increased when cyanosis is present.

We depend very largely, of course, upon the X-Ray in addition to our stethoscopic examination to decide upon the exact condition of the good lung. When disease here is confined to the hilus and peribronchial lesions, we would have no hesitation about compressing the other lung. Even healed parenchymal lesions may be disregarded.

In apical phthisis it has been maintained that therapeutic pneumothorax should be resorted to as soon as an ulcerative process develops, for two main reasons: first, because the other lung so commonly shows disease earlier than in the hilus type; and second, because the increase of adhesions in the apical type more frequently prevents perfect compression, if allowed to continue too long.

It should be said here, also, that even in cases which seem most unpromising, remarkable results not infrequently occur. Thus with a cavity in one lung, the patient may suffer greatly from the presence of much toxic material in the lung. Even in the presence of fairly active disease in the better lung, one may here get great improvement and undoubted prolongation of life by collapsing the cavity, squeezing the toxic material out of the neighboring tissues and putting the diseased portion of the lung at rest.

We have had the experience several times of having the good lung develop serious signs of disease a year or more after we had ceased compression of the other side. In three such cases I have successfully compressed the second lung, thus throwing the burden of carrying the respiration of the body on a lung previously badly diseased and itself collapsed for therapeutic purposes. Two of these cases are still under treatment with the healed lung showing no signs of breaking down. One of these has already been compressed a year, and this patient weighs more now than ever before in her life. In the third case, the second lung

\*Read at meeting M. S. M. S., Flint, 1922.



was allowed to expand, about one year ago, and both lungs have been functioning perfectly ever since. How soon they will break down again is, of course, a question but, in any event, this patient has been given some years of useful and happy life.

#### HEMOPTYSIS

Severe recurrent hemorrhages from the lung or persistent slight bleeding resisting ordinary treatment, present a definite indication for collapse of the bleeding lung. The indications here being more urgent, one usually gives a larger quantity of gas at the first sitting, producing a fairly rapid collapse. In 1917 we admitted a young man who had had nineteen hemorrhages in the preceding three weeks. He was exsanguinated on admission with a high septic temperature. His death seemed imminent. He was given 1500 cc. of gas in two days, and had no bleeding after the second day. Fortunately, the other lung was good and he made a rapid recovery. At the end of three months he had gained twenty-five pounds and felt so well that he insisted on leaving the sanatorium although against our advice.

#### CONTRAINDICATIONS

Advanced bilateral disease is rarely benefited. Marked emphysema such as is often found in old tuberculous asthmatics is a contraindication for therapeutic pneumothorax. It rarely does any good and may hasten death. In the presence of diabetes and advanced nephritis, the procedure is not to be recommended. On the other hand, I have successfully compressed two cases complicated by valvular disease of the heart and have had no cause to regret it.

Possibly here I may also mention the fact that two of my patients, each with one lung compressed, have successfully taken a gas-oxygen anaesthetic for appendectomy with no bad results.

In concluding these remarks on the use of pneumothorax in phthisis, I wish to say that while many cases presenting themselves are unsuitable for this treatment, it is undoubtedly true, as stated by Riviere, that most cases of advancing pulmonary tuberculosis do pass through a stage where this procedure would be of great benefit, if not actually life-saving. The watchful physician, of course, will see that his patient does not pass this stage without being given the benefit of a trial.

#### PULMONARY ABSCESS

In another paper I have written at length of the use of pneumothorax in certain cases of lung abscess. Briefly stated lung abscess in a lower lobe and near the hilus, should be compressed unless there is some contra-indication

such as disease in the other lung, etc. Abscesses near the periphery of the lung should be surgically drained. Pneumothorax, therefore, does not supplant surgery but supplements it since the abscesses at the hilus which form the greatest surgical risks, present the cases giving most favorable results from compression.

#### BRONCHIECTASIS

Theoretically, pneumothorax is the ideal treatment for bronchiectasis except for one fact. Ordinarily there are such dense adhesions around a bronchiectatic cavity that anything like a satisfactory collapse is impossible. However, in a few instances I have succeeded in greatly improving the condition of unhappy victims of this disease by this procedure and I believe the time is not far distant when the surgeons will dissect these adhesions so as to free the lung and allow us to successfully collapse such a diseased lunge, thus greatly improving the condition of these patients and prolonging their lives.

### THE TREATMENT OF MILD DIABETES MELLITUS\*

PHIL L. MARSH, M. D.  
ANN ARBOR, MICH.

The patients with the more severe grades of diabetes mellitus usually find their way sooner or later to the specialist or to a hospital for treatment. The type of subject who has been selected for this discussion is the mild diabetic, usually elderly and often obese, whose symptoms are insignificant in comparison to the burden of dieting, or in whom the only manifestation of the disease is a glycosuria discovered in the course of life insurance or other routine examination. This group of patients usually is and by right ought to be treated by the family physician.

Such a patient invariably asks: "Why should I go to all this trouble about my food when I feel so well?" Too often the physician feels the same way about it, that the treatment of a patient with a very mild diabetes is a waste of energy for everybody concerned; or else his conviction is so feeble that he is unable to persuade the patient of the importance of keeping his urine sugar-free, and the latter becomes an untreated, or intermittently treated diabetic. To convince the patient his medical advisor must have a strong body of argument against this *laissez faire* attitude.

It is a matter of common observance that the untreated diabetic tends to lose carbohydrate tolerance. A long period of constant glycosuria is likely to transfer him into one of the more

\*From the Department of Internal Medicine, Medical School, University of Michigan.



severe groups. Life insurance statistics show that subjects with an accidentally discovered glycosuria are much poorer risks than normal subjects; this is convincing evidence that the most moderate cases can not be considered entirely benign. From the history of patients with diabetes of long duration without treatment, it is often apparent that they must have been much more readily controlled at the onset than they are when they finally come for treatment. The loss of carbohydrate tolerance that is associated with hyperglycemia is the first argument which makes us insist on the treatment of even the mildest diabetics.

The second argument is found in the frequency and nature of the complications that are so common in the mild, elderly diabetic. These are of wide variety, including many of an infective nature due to the lowered resistance of the diabetic tissues to parasitic invasion and multiplication, and a large group of diversified lesions of less easily interpreted causation—notably cataracts, arteriosclerosis, gangrene, myocarditis, chronic nephritis, apoplexy and neuritis. That these complications are frequent is shown by the fact that of the last one hundred diabetics treated at the University Hospital in whom the onset was after the age of forty, sixty-eight had important complications. No case was included in these sixty-eight in whom the complication was not either dangerous or incapacitating. These patients had been mild diabetics quite undisturbed by their symptoms and came to us because of the complications. Where as they would have been easy to treat at the first discovery of the glycosuria, their cases became difficult to manage because of the superimposed pathology.

There are several reasons why these complications are important and to be avoided. Many of them, especially the infections and perhaps arteriosclerosis, further damage the pancreas and cause a progressive increase in the severity of the diabetes. Most of the more serious complications are incapacitating. Important economic loss to the patient, his family and the community results from the blindness due to cataracts and neuroretinitis, from the restriction of activity due to gangrene or osteomyelitis of the feet, from invalidism due to cardiac failure or Bright's disease. To the mental suffering that the patient must endure because of his enforced vacation are added in many cases actual pain and physical discomfort. Even so benign a complication as pruritis vulvæ may cause the patient most intense distress. Even more important, however, than the slow loss of tolerance, the incapacity and the suffering is the fact that these complications are frequently fatal. Less than fifty percent of all

diabetics die in coma and coma is almost entirely limited to the younger group. The elderly diabetic almost always dies of a complication. In the untreated or the improperly treated patient, this usually occurs in the first decade of the disease; his expectancy of life is cut to a half or a third of that of the non-diabetic subject. Twenty-two of the hundred diabetics mentioned above in whom the onset occurred after the age of forty are dead. Of these, six died of infections, five of diseases of the renal and cardio-vascular systems, three of gangrene, three in coma, three of miscellaneous causes and two of unknown causes. Practically all of these deaths were due to complications of the diabetes rather than to the diabetes itself. The prevention of these complications by the efficient management of the diabetes is much more satisfactory than any treatment that we have to offer after they have developed, and success in keeping the elderly, mild diabetic alive depends largely on our success in keeping him free of these complications.

Not only is the diabetic state commonly neglected during the period before complications appear, but it is also too frequently the case that attempts are made to treat the complication without first controlling the glycosuria. In particular the treatment of infections and surgical therapy of any kind are likely to fail in the presence of hyperglycemia, and disaster is the rule rather than the exception.

For the prevention of downward progress of the diabetes, for the prophylaxis of complications and as an important element in the treatment of existing complications, rigid treatment of the diabetes is indicated. This may be discussed under three heads: diet, personal hygiene and instruction of the patient.

#### DIET

In the type of patient under discussion the diet offers few difficulties. Its first requisite is that it keep the urine free of sugar and the blood sugar at approximately normal level. Often this can be accomplished by very moderate curtailment of all the food stuffs. In other cases some reduction of carbohydrate and even of protein together with limitation of the total caloric intake may be required. For the group with a slightly more severe diabetes we have found a diet containing protein 55 grams, fat 220 grams, carbohydrate 35 grams and 2300 calories to be very satisfactory. Absolute freedom from urinary sugar must be insisted upon; it is an injustice to the patient to assure him that he is doing well because there is only a trace of sugar in his urine.

While it is desirable to feed a maintenance diet on which the patient can carry on his ordinary activities of life, overfeeding is carefully

to be avoided. The days are past when we measured our success in the treatment of a case of diabetes mellitus in terms of the number of pounds of weight that subject gained. We now realize that the condition of the lean diabetic is better than that of the obese one and that gains in weight are likely to be associated with loss of tolerance. For this reason the obese should be reduced to the standard for his height, age and sex, and the lean should be maintained at that level. This can be accomplished without difficulty by experimental adjustment of the diet and exercise, with biweekly weight records.

Death from coma is rare in the mild, elderly diabetic, and his allowance of carbohydrate may always be sufficient to make fear of acidosis unnecessary. It should be pointed out, however, that in this group fasting is especially dangerous. For example, a woman, 62 years of age, whose diabetes had been so mild during its three years of duration that she had not consulted a physician, came to us after two weeks of alternating complete and partial starvation, in extremis. She vomited everything that was given her and her exhaustion was extreme; in spite of all we could do she died four days later without coma. Avoiding the controversy as to whether the starvation is ever indicated in the treatment of diabetes, we are safe in insisting that it is neither necessary or desirable in the elderly, mild diabetic.

#### PERSONAL HYGIENE

While in the treatment of diabetes mellitus we are primarily interested in diet, we must not forget that the manner in which the patient lives is also important. It may be accepted as a general rule that the measures that promote the health of a normal individual will improve the condition of a diabetic. It is especially important for the latter to consciously follow the laws of personal hygiene; illnesses that only temporarily disturb the healthy man may aggravate and increase the severity of diabetes, and may, because of the lower resistance of the diabetic patient, be serious or dangerous in themselves. This does not imply that the diabetic patient is to consider himself an invalid. The less he thinks about his disease outside of meal time, the better off he is. But just as many thoughtful, healthy people try to assure themselves of continued good health by careful regulation of their lives, so may the diabetic without constant thought of his diabetes so control his daily routine that his whole condition is improved. A few of the questions that the patients most frequently ask will be discussed.

Except under exceptional conditions exercise is to be encouraged. Each patient should so

plan his affairs that he walks several miles a day in the open air. A small garden is very desirable not only for the exercise it requires but also for the variety of vegetables that it provides. On the other hand exhaustion is to be avoided. A moderate degree of fatigue which insures a night of sound sleep is beneficial but exertion beyond the capacity of the individual is harmful.

Severe mental strain is to be avoided. Considerable discipline may be required to attain that philosophical calm which permits the maintenance of an even emotional level, but it can be attained and is worth the effort. A change in occupation may be entailed and the patient must avoid adventures that he expects to result in unusual emotional or mental strain.

The patients should be assured of a sufficient amount of rest. Ten hours in bed every night is the least he should allow himself. He must be absolutely regular in his habits of retiring and arising and should allow nothing to interfere with them. It is usually desirable for him to add an hour's nap, or at least rest in a reclining position, every afternoon. Frequent and extended vacations, especially into the woods on hunting and fishing trips are to be encouraged. Such intervals carry the benefits not only of out-of-door exercise but also of complete irresponsibility and mental rest.

We are frequently asked whether or not a patient should give up his work. From what has preceded, it will be seen that no general answer can be given to this question. If the patient's occupation is one that requires of him unusual mental or physical exertion, he would do well to change to one less exacting and exhausting. In the one case the mental strain may aggravate his diabetes, in the other his allowance of food may be too small to supply enough fuel for high power and great speed. On the other hand idleness in one accustomed to work or economically responsible for a family is to be avoided. Cessation of work is accompanied by worry, restlessness and lack of motive in living that are damaging. Ordinarily we advise work in moderation.

The most damaging accident that a diabetic can meet is an infection. Not only does this apply to the ordinary specific infectious fevers and "contagious diseases" such as scarlet fever, pneumonia, mumps, etc., but also to such trivial infections as abscessed teeth, sore throats and common "colds." At the time of the infection, sugar often appears in the urine; we have seen this happen with a dental abscess or a mild attack of tonsillitis. After such an infection the painful discovery is often made that the tolerance is decreased, and the diet which caused no glycosuria before produces several

grams daily in the urine. Moreover diabetic patients have a lowered resistance to such diseases and not infrequently die from them when a normal person would be expected to survive. For these reasons the patient must avoid infection as far as possible, and if infected obtain early and effective treatment.

The absolute avoidance of infection is impossible as long as one remains in contact with his fellow men. A few precautions will, however, greatly lessen the dangers. During epidemics, the patient must avoid public places and vehicles where large numbers of people congregate. If a member of his family is suffering from an infectious disease he should make his isolation as complete as possible. So-called common "colds" are infectious and are transmitted from one to another no less than are scarlet fever and tuberculosis; the diabetic must regard the victims of these colds as menaces to his well-being. Exercise in the open air with thorough ventilation of his respiratory tract will help keep him immune if he is unavoidably or unwittingly exposed. He should, of course, sleep alone in a well ventilated room. Organs with chronic infections that are likely to exacerbations should be removed; this applies to teeth and tonsils in particular, and there are a number of other chronic infections that are amenable to surgical or medical treatment.

If, in spite of all care, infections occur, prompt and efficient treatment should be started at once. His physician should be consulted without delay. Early drainage of an infected middle ear, of a boil or of an infected toe may save serious and even fatal complications. An abscessed tooth should be removed as early as possible. Diabetic patients who insisted on staying up and "fighting" influenza have in our experience waged a losing battle. Inter-current infection demands very prompt attention from the diabetic.

A number of miscellaneous items should be mentioned. In order to prevent the unnecessary combustion of fuel the clothing should be sufficient to keep the patient warm. Since excessive urination is a symptom of diabetes it is sometimes thought desirable to limit the fluid intake. This symptom is best controlled by diet and the fluid restriction adds unnecessarily to the discomfort of the patient. He should be instructed that beverages without food value may be taken as desired; included in these are water, coffee, tea and bouillon from beef cubes. On the other hand beverages containing sugar or starch must be avoided. Patients do not realize unless told the high carbohydrate content of soft drinks—gingerale, "pop", near beer, seltzer, etc. For the same reason paraffin or spruce gum should be substituted for

ordinary chewing gum and chewing tobacco should not contain sugar.

Since alcohol has been used very extensively in the treatment of diabetes, it requires special mention. Investigations of recent years have shown that alcohol has no particular value in the diet of the diabetic, and is indicated only in certain exceptional cases. As a usual thing the diabetic will do better without it. If, however, it is prescribed, it must be remembered that it must be reckoned with the food of the day, and allowance for it in the diet must be made at the rate of 7 calories per gram. The fact that most alcoholic beverages contain starch or sugar must also be kept in mind and care must be used in selecting one of negligible carbohydrate content.

#### INSTRUCTION OF THE PATIENT

The persuasion of the patient that he must remain aglycosuric and the arrangement for him of a proper diet are wasted energy unless he is so instructed that he can continue the rigid dietetic regime. The skill with which some of these patients are able to arrange menus with the proper quantities of food stuffs is astonishing. This ability is limited only by the intelligence of the patient and the patience of the physician; of these two, the latter is the more important. Most patients can be taught to use the percentage food tables that are found in most text books of dietics. The rest can be taught to calculate the diets by some group arrangement of the foods, as the 5 and 10% vegetables, etc. The use of scales and other measuring devices should be demonstrated. Finally, they should be taught to examine their own urines. Success in the management of diabetes mellitus depends much more largely on the ability of the patient to care for himself from day to day than it does on the type of diet. The effort involved in the instruction of the patients is more than out-weighed by the added years of comfortable, useful life that result.

#### TREATMENT OF COMPLICATIONS

A discussion of the mild type of diabetes that is under consideration would be incomplete without mention of the complications that are so important in these patients. It has already been pointed out that these are more easily prevented than cured and that proper diet and hygiene may be expected to prevent their occurrence in the majority of cases. If they have occurred, however, and are amenable to treatment, they must be attacked courageously. This is especially true of infections; their damaging effect in increasing the severity of the diabetes is such that their radical elimination is clearly indicated. Not only does this apply to such major pathology as gangrene



and large abscesses, but also to the minor infections—septic tonsils, abscessed teeth and furunculosis. With the modern treatment of diabetes, there is little more reason for fearing surgery in a properly prepared diabetic than in a non-diabetic subject and to withhold from him the benefit to his comfort or safety that might be expected from an operation is unfair.

On the other hand, it is frequently useless and often dangerous to attempt to treat the complications without controlling the diabetic state. That such attempts are frequently made is notorious. It is in those patients with gangrene that we see this error most often. The surgeon operates, and having been impressed with the alleged dangers of dietetic treatment, allows the glycosuria to continue. The wounds heal slowly or not at all. The gangrene spreads and second and third operations are required. Death finally relieves the patient of his suffering. On the other hand the result of properly performed operations on the controlled diabetics is as good as those on non-diabetic patients. It is a rule that may be applied to practically all diabetic patients, that their complications can be well treated only as their diabetes is well treated.

#### CONCLUSION

In conclusion I wish to again insist that no case of diabetes mellitus is so benign or mild as to warrant neglect. Dr. Joslin has estimated that there are a million diabetics in the United States. By rigid treatment we can add years to the life of each and prevent an untold amount of suffering, incapacity and economic loss. Improvement in the mortality records of diabetes depends much more on the physician who sees the patients in their homes than on the specialist or the clinic.

#### DISCUSSION

DR. CHARLES STUART WILSON, Detroit: I think the danger of the term is very evident to one who is doing work in diabetics, where he sees patients come in, supposedly mild, with coma and die. A patient may be considered a mild diabetic by the attending physician, and still he runs symptoms. If Dr. Marsh did not define mild diabetes as described in his paper, I hope he will do so in his closing remarks.

One point I would like to emphasize is the question of complications in diabetes. I rather got the impression from what he said that gangrene, for instance, occurs in patients only when they have sugar and other kinds of diabetes. He did not mean that because it is not uncommon to see diabetes gangrene in a sugar free diabetic, and the diabetic has normal blood sugar, especially if the diabetes occurs after the age of fifty. Because of complications to the vessel walls and endarteritis, these patients do very badly, even though under diabetic management. The sequence is followed by another cause, but whether the patient is treated for diabetes or not, there is without doubt a blocking condition in the vessels. I think that should be kept in mind because you cannot give too much

encouragement to a patient with a gangrenous complication just because he is sugar free and his blood sugar is normal and he has not the other symptoms of diabetes.

I feel the point the essayist made regarding the treatment of diabetes is very essential. I think it is fundamental and certainly is overlooked. Patients occasionally have a trace of sugar which is not serious, and probably they are all right. It is a great mistake not to have all diabetics under constant management. It is true, the ultimate result will depend on the length of time of life, and freedom from complications should be greatly increased.

I was in hopes among the complications Dr. Marsh would speak of the kidney lesions we sometimes see in combination with the sclerotic patients, the nephritis and diabetes. They oftentimes present a puzzling topic. A patient being a generalized sclerotic case, with manifestations on part of kidney function, it is a question whether that case can be classified as mild or not in terms of sugar. He presents conservation of kidney function and conservation of sugar metabolism.

DR. LEONARD F. C. WENDT, Detroit: The essayist has covered the method of treatment in the complications of diabetes. I was very glad to hear him say they did not use alcohol which previously was used to a large extent. I think if all men will try, they will get along better without alcohol than with it.

The doctor did not mention one thing that I would like to bring up and that is the use of sodium bicarbonate. In previous years sodium bicarbonate was used promiscuously in large quantities to avoid and prevent acidosis. I think if all men would try to get along without sodium bicarbonate, they would derive greater satisfaction and their cases would progress more rapidly.

Dr. Wilson brought up the point of angitis obliterans. We have at the present time at the hospital in Detroit a patient who had had a thyroidectomy performed ten years ago. Five years ago an arm was amputated. The patient was admitted to the hospital as a mild case of diabetes, with several ulcerations on the shoulder, very mild gangrene of the leg, and was immediately made sugar free, acetone and diacetic acid free, and has been so for practically a month. The CO (2) blood was not severe and still angitis has extended way up into the groin so that the surgeon refuses to operate.

I would like Dr. Marsh in closing the discussion to say something about his experience with the sodium bicarbonate treatment in these cases. The medical journals are now favoring the elimination of the sodium bicarbonate treatment, and personally I get along better without it than with it.

DR. MARSH (closing): Dr. Wilson has asked me to define what I mean by the term mild diabetes. I think there is nothing more unsatisfactory than the classification of diabetics. We have no scheme whereby we can put diabetics into certain compartments and say this case is the first degree of severity, and that one the second or third degree. We have no test of any kind whereby we can make such a distinction. There is a certain group of diabetics that I think we can call mild, that type of diabetic which I defined in the beginning of my paper before Dr. Wilson arrived; that diabetic who is usually elderly, often obese, whose symptoms are mild in proportion to the burden of diet, whose glycosuria has been discovered at a routine examination, with a high "carbohydrate tolerance." That is the type of diabetic I wished to discuss and insist upon the treatment of these diabetics.

The question of complications, referring particularly to the cardiovascular and renal systems, is

sometimes a difficult one and leads us into the field of speculation. In some cases arteriosclerosis, for instance, is partially the result of the diabetes. In other cases we cannot help but wonder if the diabetes is not partially the result of arteriosclerosis of the pancreatic vessels, for instance. It is true that diabetics as a group have a higher degree of arteriosclerosis at an early age than ordinary subjects. Some of these patients who have had a mild diabetes for ten years have developed a rather severe grade of arteriosclerosis, and it is not surprising they should develop gangrene even though they are sugar free. My point is that if we started treatment in such cases ten years before, gangrene would not have developed. We have a man in the ward at present of the type mentioned by Dr. Wilson. He came in with gangrene two or three years ago. He was sugar free, but developed gangrene of the toe. He had had diabetes for ten years without treatment. The dietetic treatment of diabetes could not and should not be expected to repair the damage already done. My plea is that we will avoid, at least, a certain amount of this complicating gangrene if we treat the diabetic from the first day of the diabetes. We cannot do that if it is not discovered. In many cases it is known that a man has diabetes; the patient knows it and the doctors know it. These patients should not go on without treatment.

The same remarks apply to the nephritis associated with diabetes, the nephritis associated with hypertension. Of 100 patients, elderly mild diabetics, 22 are dead. Six of these died of disease involving the renal or cardiac system, leaving out the gangrene group. Nine out of 22 patients died of diseases not referable to diabetes, such as apoplexy, Bright's disease, and so on.

Regarding the so-called pre-diabetic, unfortunately we have no clear cut method of determining that a patient is a pre-diabetic. The blood sugar curve, after the ingestion of a measured amount of glucose, is not a mathematical certainty. There are many difficulties connected with it, not only with reference to blood sugar determinations themselves, but to other factors. Many patients will develop a psychic reaction from the withdrawal of blood. This was pointed out recently in normal medical students with a severe type of reaction; the blood sugar was as high as 2 per cent.

With regard to the use of sodium bicarbonate, we have not used it since July, 1919, with the single exception that a man who came in from camp died three or four hours after he arrived at the hospital. In his case we used sodium bicarbonate without effect.

Dr. Joslin, who is one of the best authorities on diabetes in the United States, maintains that if we treat these patients carefully from the start we can add very materially to the prolongation of their lives, and the total economic gain to the country would be enormous.

### CHRONIC MASTOIDITIS\*

DOCTORS SLEIGHT AND HAUGHEY  
BATTLE CREEK, MICH.

Chronic Mastoiditis is more frequent than was formerly supposed. It is always preceded by suppuration of the middle ear, except in those comparatively rare cases following traumatism.

The mastoid cells are an extension from the antrum, and are lined by an extension of the

mucous membrane or mucoperiosteum, which lines the eustachian tube, tympanum and antrum. The bone is nourished from this membrane. Anything interfering with this nourishment will cause caries.

Chronic pus infection which does not clear up causes a decrease in vitality, then an ulceration of the mucoperiosteum, later followed by caries. There may be polyps from the carious bone. This caries may break through in any direction, middle cerebral fossa, posterior cerebellar fossa, the tympanic cavity, the external semicircular canal, the external auditory canal subperiosteal, the lateral sinus.

Mastoid complications occur especially often in tuberculosis, scarlet fever, measles. Less often in typhoid fever, influenza, etc. Cholesteatomata produce necrosis of bone by pressure, and cause great cavities which may extend to the cranial cavity as well as any part of the bone. The minute pathology or the pathology of complications is too well known to be repeated here.

The diagnosis of presence of chronic mastoiditis is not as a rule difficult. The symptoms are nearly the same as that of chronic otitis media—being merely an extension of the condition. To diagnose the extent of involvement and the presence or absence of dangerous complications is a difficult matter and is likely to tax one's skill.

It is a question of justification for operation largely, rather than the diagnosis of the condition. The radical mastoid operation is a major procedure involving much loss of time from business and with the certainty of a large percentage still having a discharge—with some having dizziness or other symptoms, paralysis, etc.

The determination of when operation is advisable depends upon the history and course of the disease, the discharge, polyps, pain on pressure, temperature, exacerbations, but most of all upon the inspection and careful examination of the diseased region. The aurist will get to weigh all these things more or less subconsciously—then give the patient that which will be of most benefit.

The radical mastoid operation should not be undertaken except possibly in the presence of acute exacerbations, until all available methods of treatment through the auditory canal have failed. Polyps should be removed, drainage established and attempt made to clear up the condition previously. If efficient care and necessary minor procedures do not lessen the discharge, or remove the odor in four or five weeks, then the question of a radical operation should be considered.

If the condition of comfort of the patient

\*Read at annual meeting M. S. M. S., Flint, 1922.



cannot be definitely improved, (the question of grave complication not being involved) the operation should not be done—but if there is grave complication or great inconveniences the operation is advisable.

The radical operation, we believe, should be done in a conservative manner—remove what must be removed, do what should be done, but then stop. We believe many radical mastoid operations have been failures or a source of profound annoyance to the patient on account of being too radical. The labyrinth may be disturbed, the external semi-circular canal, especially, with its attendant annoyance, or the facial nerve may, and often is injured with that disfigurement. The cavity may become and remain dry, or it may not, and we do not believe an extensive and very radical operation tends any more to complete success in this matter than a more conservative operation.

We do not use a Tirsch graft, but do a plastic operation on the posterior canal wall—opening it in its entire depth, thus securing a good space for later treatment and a very satisfactory dermatization. The posterior incision is sutured at operation and usually the dressings are all off the patient in two weeks, except the local dressing in the cavity. We do not use the blood clot closure either in our simple or radical operations.

The steps of the operation have been described more completely and more skillfully than we can, but we wish merely to sound a warning, as our experience has pointed, towards conservatism even in the radical mastoid operation. If we succeed in inciting a full and complete discussion, we shall consider ourselves well repaid.

#### DISCUSSION

DR. JOHN E. GLEASON, Detroit: It seems to me that the hardest thing to decide in these chronic cases is what we shall do. It has been our policy always to try conservative methods of medication in chronic ears first, in the absence of other more serious indications, until we are sure we are not going to get a dry ear. If we do not get a dry ear then we have to consider whether we have a tubal ear, attic suppuration or mastoid involvement. If we do not have perforation low down in the drum in front of the line of the malleus, we consider it a tubal ear, and the only kind of tubal ear treatment that has been successful with us has been curettage of the tube. When we find we have a tubal ear that will not dry up under local treatment we advise a radical operation. I do not agree with the essayist that we should do as little as possible. A number of years ago when Doctor Heath was in this country I had occasion to spend two weeks in Boston seeing him operate with his modified radical operation on chronic discharging ears, and had occasion also to follow the reports of those cases, and the results were entirely unsatisfactory. That has been my experience. I have only done the Heath operation where I had extraordinarily good hearing and where I did not want to take any chances, and the results were good, but I will never

again attempt the Heath operation. It has not been successful as far as the patient is concerned, for they still have a discharging ear, and that is the thing that influences the patient to have this operation done. One thing Heath has done for us is the production of his bridge forcep. If those who have not seen it will inquire for it I think they will find it useful in taking down the bridge in this operation.

The dressing and after care of these cases is practically as Doctor Haughey states—the incision is made far back, the wound closed immediately, usually within a week the bandage can be removed and the colloid dressing applied. The after care of the middle ear cavity is comparatively simple. We have never attempted anything except to let nature take her course and guiding it. By doing the most radical operation possible, cleaning out the middle ear down into the tube, we have been able to get practically dry ears in a majority of our cases.

DR. GEORGE E. FROTHINGHAM, Detroit: I would like to add one thing that I have not heard mentioned, and that is that in cases of chronic suppurative otitis, those cases where we find cholesterol, we should practically always do a radical operation. I think they require special attention and early attention, because from the pressure on the bony wall we are very liable to have an infection deeper into the labyrinth.

DR. B. N. COLVER, Battle Creek: I do not hear any discussion of the question of skin graft in the radical mastoid. Not long ago someone told me about some operator who used a method for applying skin graft that seemed worth trying. He filled the cavity with normal salt solution at the close of the operation, then overlaid the surface with a skin graft and withdrew the saline solution with a small tube, and as he did this the skin graft applied itself to the wound. It seems to me that is well worth trying in the application of a Thiersch graft.

DR. AMIL AMBERG, Detroit: I would like to mention one point concerning the operation the essayist speaks of. An ordinary radical mastoid operation can be done by any trained otologist, but the modified mastoid operation of which the doctor speaks required great experience and great skill.

DR. ROY B. CANFIELD, Ann Arbor: I would like to call attention to the fact that in chronic suppurative otitis the pathological changes in the bone extend into the Haversian system, a point which cannot be reached by a syringe, consequently the cure depends upon the replacement of the carious bone and the cholesterol which is present in all cases by healthy epidermis. To my mind the Thiersch graft or any other kind of graft delays the ultimate cure and produces only a temporarily satisfactory result; but we must realize that the Thiersch graft must desquamate and come off, consequently the patient cannot do well until that has happened and cannot get well until healthy skin has grown in from the margin, has penetrated the Haversian system and replaced the pathology in the bone at a distance from the field of operation. Nor can he be well until this epidemic has lost the characteristics of skin and these characteristics have been replaced by those of the horny layer of the skin—that is, until the mastoid is covered with a membrane very much like the finger nails. The ultimate, final cure resulting from radical mastoid operation occurs when Nature has permitted the skin growing in from the margins to penetrate the Haversian canal, consequently cure from a radical mastoid operation requires six months or a year.

DR. WILFRID HAUGHEY, (closing): I do not



think I advocated a modified radical mastoid generally. I said to do what is necessary, but as little as is necessary. The radical operation involves a certain amount of surgery, and I do not think these radical exenterations are often necessary.

In the after care, Dr. Gleason's experience is the same as mine. It does not take much care—keep the opening through the canal clean and see to it that the dermatization is healthy as it progresses.

Of course, as soon as you make a diagnosis of cholestrin, that means mastoid operation.

I said I did not use the Thiersch graft. I have used it, but there is always a foul desquamation. It must grow and then come off, but I think the healing is delayed, as Dr. Canfield said. All I do is to split the canal wall, tie one side down and the other side up, and dermatization takes place from the edges of the canal wall.

I have tried the Heath modified operation, but I cannot see how he will accomplish what a radical operation is supposed to accomplish. A radical operation involves doing certain things, and when you have done them, establishing your drainage and give a chance for dermatization.

As to results, I do not know whether my percentage of cures is better than anybody's else, but when I was preparing this paper I went over my records for five or six years and found eighteen radical mastoids, two of which still have a little discharge. One was done within the last six months. The rest of them at the time of my last record were dry. The text books, when speaking of radical operations, say that sometimes 30 or 40 per cent are apt to have discharging ears when you get through.

#### INDICATIONS FOR RADIUM THERAPY IN OPHTHO-OTOLARYNGOLOGY\*

R. E. LOUCKS, M. D.  
DETROIT, MICH.

The indications in either of the above specialties cover a field large enough for separate consideration.

In addressing this section on the many uses for radium it would be unwise to touch on the etiology or pathology, so I will confine myself to special conditions.

I. Radium salts used locally in small, short-timed dosage, acts as a stimulus to slow, sluggish granulations and fistulae.

II. Large amounts, properly screened for a longer time, destroy benign and malignant growths.

III. Improperly screened or timed applications destroy healthy tissue, stimulate tumor growth and hasten metastasis.

The first two effects are constructive or curative in their therapeutic application, while the latter is destructive and a harmful measure.

This dual action of the radium salts has to be considered in every case about to be treated, so that I wish to emphasize the importance of experience and technique, with a clear knowledge of the physics of the element.

1. Radium treatment is indicated (and is a specific) in basal celled carcinoma, involving the skin covering the orbit and lids of the eye.

2. Epithelioma of the palpebral borders.

3. Lupus vulgaris or rosacea of the skin surrounding the palpebral fissure.

4. Sarcomas, Carcinoma and other tumors involving the orbit.

5. Vernal catarrh, pterygium and slow healing ulcers of the cornea or conjunctiva.

6. Relief in trachoma and questionable benefit in glaucoma.

7. Palliation in traumatic and senile cataract. It is noted that the cornea and optic nerve are resistant to the action of the gamma rays of radium.

II. In treating the external ear or external auditory canal for lupus or malignancy, the greatest care is necessary on account of the proximity of the cartilage, which is very susceptible to the rays on account of its poor blood circulation.

1. Chronic middle ear disease with granulations, but caution should be exercised on account of the possibility of bone necrosis.

2. Chronic progressive deafness is benefited in-so-far as the fibrosis of the external canal intensifies sound.

3. Chronic fistulae following mastoid operations.

III. Laryngology specifies diseases of the larynx, pharynx and fauces to and including the anterior pillars and uvulae.

The many conditions of the oral cavity that are amenable, such as growths of the tongue, jaws and palate will be passed, but I wish to draw your attention to the specific action of the beta rays of radium on leucoplakia of the buccal mucous membrane.

Growths within the nares either of the septum or turbinals. It will reduce hypertrophy without destroying the mucous follicles and prevent the recurrence of polypi after surgical removal. Growths of the pharynx, nasopharynx and tonsils.

Chronically infected tonsils without excess of hypertrophy is the most modern and popular condition for the radium therapist to treat. Suffice to say in a discussion of this kind that the results are satisfactory. Simplicity of application, freedom from danger, hemorrhage and pain are appealing to modern medicine.

Malignant growths of the larynx have not been successful in the author's experience, yet many favorable cases are reported.

Direct application to papillomata or pre and post operative treatment after surgical removal to prevent recurrence.

Cervical adenitis either tubercular or staphylococcus in origin respond to gamma radiation.

\*Read at annual meeting M. S. M. S., Flint, 1922.

Furthermore it is the author's rule to recommend all cases of enlarged lymph nodes to have radiation before tonsilectomy is performed.

February, 1916.

Case Report No. 193.

Miss L., Nurse at Harper Hospital.

Complaint—Chronic fistula following a mastoid operation.

History—Had a successful mastoid operation over a year ago, but a chronic fistula remained. Had two subsequent operations to close the fistula without results.

Examination revealed a fistula one C M in depth, discharging a small amount of thin mucus with a tongue of granulation occupying the tract.

Cocaine and adrenalin were applied locally and a 25 MG tube of radium, screened with only a half MM of silver was held within the fistula for one hour.

This treatment lessened the size of the granulation and the amount of the discharge only, so that another treatment of the same amount and for the same time was given in two months. The granulation then contracted and a scab formed leaving a healthy and smooth looking scar.

June 16, 1921.

Case Report No. 663.

Mr. R. C., mechanic.

Complaint—Left nasal obstruction.

Family history—Mother died at fifty-eight years of age, cancer of uterus.

Past History—Was a pugilist. Had nose broken four times. The last fracture was eight years ago. Two years ago had difficulty in breathing and at that time had an operation.

About eighteen months ago had the left nares curretted, but the growth soon returned.

Examination—A granular cauliflower growth occupying the entire left nasal space.

Under cocaine and adrenalin locally the growth was seen to arise from the anterior part of the inferior turbinal, and had extended to the mucous membrane of the anterior nares, the upper nasal space and the septum for fully two square C MS.

A section was taken at Solvay hospital which proved to be a papilloma of a suspicious character.

Treatment—Was given 140 MGS in three tubes, screened in one half MM silver, laid in a wax base and held in nares with both sides exposed and held in place with packing for three hours.

Follow Up—It is now a year and there is no evidence of the growth. The nasal mucous membrane is smooth but there still remains a small ulcer of the septum that is responding slowly.

June 12, 1920.

Case Report No. 565.

Mr. Walter R. H., Salesman.

Complaint—Nasal polypi and asthma.

History—Had nasal polypi removed from both nares every two years for some time.

A partial middle turbinectomy with curettement was done on left nares two years ago. Has had asthmatic and angina attacks for the last four weeks.

Examination—Several large and small polypi were snared from each nares ten days ago. The local swelling was overcome with adrenalin and cocaine.

Treatment—June 20: Was given 40 MGs in one half MM silver capsule and rubber dam, held in right middle meatus for two hours.

July 26, 1920—50 MGs in one half MM silver and rubber dam was held in the middle meatus of each nares for two hours.

July, 1921—There is considerable atrophy of the inferior and middle turbinals. The mucous membrane of the middle meatus has a bluish polypoid appearance but not the pearl gray of the true polyp. The nares is free with excellent breathing space. There is no evidence of sinus drainage and he has been free from asthma and cardiac angina.

Does not have attacks of rhinitis with polypoid mucous drainage now.

May 3, 1921.

Case Report No. 654.

Mr. C. W. L., Jackson, Michigan. Age, 53 years. Occupation, tinner.

Complaint—Goitre and a chronic sore throat.

Duration—Four years.

Family History—Negative except that one sister had a goitre.

Personal History—Had diphtheria at ten years of age.

Present condition began about four years ago after an attack of tonsillitis. A slight change in weather or exposure would precipitate a rawness of the throat with difficulty in swallowing. Had local treatments with no results.

Patient feels extremely nervous, perspires easily, has palpitation after eating, or on the least exertion. Has a good appetite but unable to work on account of fatigue.

Examination—Eyes prominent, giving him an anxious expression, skin sallow and tongue tremulous.

Both tonsils enlarged with reddened margins and many crypts open on their surface which are filled with infectious necrotic material.

The neck is decidedly enlarged over the thyroid gland. The right lobe is larger than the left and many small adenomatous cysts are palpable. The fingers and hands have a fine tremor on extension.

Heart action rapid. Apex impact heavy but no murmur detected. Pulse rate 100. Systolic B. P. 180, Diastolic 100. Metabolic rate 65.98 calories or a -|- 27.

Upper circumference of neck 15¾ inches, middle, 16, lower, 16¾ inches.

Diagnosis—Exophthalmic hyperthyroidism. Caused by infected tonsils lighting up an old adenoma.

Prognosis—Good.

Treatment—180 MGs radium screened in one half MM silver 1 MM brass and 1 MM rubber made into a gauze pad two C M thick, was held over the left lobe of thyroid for eight hours, then over the right lobe for ten hours, or a total of eighteen hours over thyroid gland.

II., 60 MGs radium with one half MM silver, 1 MM brass and 1 MM rubber and 1½ CMs of tight gauze bandage was held behind the angle of jaw below the ear or over the tonsil area simultaneously with the thyroid treatment, but for ten hours over each side or a total of twenty hours.

September 30, 1921—Four and a half months after the treatment all of the above subjective and objective symptoms have subsided.

He has been able to work for the past three months. The tonsils are normal in size, lie well within the pillars and give no trouble. The size of the thyroid gland has decreased, as the neck measurements prove, and there is no noticeable evidence of the former activity.

Pulse rate was 82. Systolic B. P. 150, Diastolic 90, or a decrease of twenty pulse pressure.

Basal metabolism now 57.56 Calories or a -|- 19. The neck measurements have decreased nearly one inch in size.

(He has not been examined since September but he reports that his throat gives no trouble, and that all nervous and heart symptoms have ceased.)

## X-RAY TREATMENT IN THE DISEASES OF THE EAR, NOSE AND THROAT\*

By WILLIAM A. EVANS, M. D.  
DETROIT, MICH.

I offer no apology for bringing this subject to the attention of this section of the State Meeting. In many other specialties radiation has become an important therapeutic measure, and we believe that sufficient evidence has been accumulated in your specialty so that even conservative radiologists can state with confidence that radiation should play a prominent part in the treatment of certain diseases of the ear, nose and throat. And, further, I am not anticipating a quarrel, for I am sure that all of us are here to learn of methods that will assist us in restoring our patients to normal. I am not advocating that radiologists should treat patients based on their own diagnosis, but I am hoping to persuade you that our method has sufficient virtue to warrant you referring certain cases to us for treatment.

While there is still some controversy regarding the nature of the changes occurring in radiated tissue, it is agreed that certain cells are stimulated, injured or destroyed, depending on the factors used in giving the treatment and that as an associated result of these changes, local immunity to infection is influenced.

In this connection, I wish to point out that the results obtained in exposing infected areas to radiation are not due to the direct action of the rays on the infecting agent, but are rather due to some biochemical change in the tissues. On the other hand, the ultra violet ray has a distinct germicidal action and in certain conditions of the throat it is advisable to combine the use of the ultra violet ray with the X-ray. This point will be elaborated upon later.

In analyzing the beneficial results that are obtained in the treatment of nose and throat conditions, we find that the greatest benefit comes from the action of the ray which results in destruction of the tissues. We are referring to the well known sensitiveness of lymphoid tissue to radiation. In fact, practically all of the advantages which accrue from this treatment are directly associated with atrophy of the lymphoid tissue.

Before taking up in detail the lesions which are amenable to treatment, we would like to answer certain objections which are raised to exposing the neck region to radiation. Fear has been expressed that serious damage will be done to the thyroid and parotid glands and other normal tissue. The writer has observed

no bad results following proper dosage, even when the area exposed is extensive, as is necessary when treating cervical adenitis; or when the number of treatments was far beyond that used in the present technique for nose and throat lesions. Further, Witherbee, (1) of New York, the leader in advocating this method of treatment, has seen no untoward symptoms in his treatment of over six hundred cases. Your cases can be referred to any radiologist experienced in therapy, with safety as regards X-ray dermatitis or complications. Again, the objection is frequently expressed that the results are temporary and that the lymphoid tissue in the throat early returns to its condition previous to radiation. While tonsil treatment, as such, has been practiced only two years and this is too short an interval to permit of proper determination of the end results, many radiologists have called back their cases treated for cervical adenitis, and their conclusions are that the changes procured in the lymphoid tissue of the nasopharynx are permanent, at least for a period of from six to ten years.

I do not believe that accidents incident to nose and throat surgery are arguments against surgical treatment, yet an enumeration of the dangers and complications of surgery of the ear, nose and throat, will serve as an expression of the advantages of treatment by radiation. Discounting the surgical risks such as severe hemorrhage, lung abscess and other pulmonary complications and leaving out the economic issues such as loss of time, the expense of surgery and also disregarding the question of the patient's comfort, there are still reasons why radiation should be considered in preference to surgical treatment.

A recent article in *The Laryngoscope* (3) gave the percentage of failures as regards clinical results in operations upon the tonsils and other adenoid tissue in the nose and throat as over 20%. These figures concern patients of all ages and our own experience leads us to believe that there is a much higher percentage of failures in patients operated upon within the early years of life. The failure of surgery in these latter cases is easily understood. They are dependent upon the normal variation in the extent and function of the lymphoid tissue between youth and adult life. In the early years, the lymphoid tissue is much more extensive, the faucial tonsil containing a relatively small part of this structure, so that the customary tonsil and adenoid operation does not ordinarily remove all of the offending tissue.

And again, the ordinary T. and A. operation is frequently followed by a very excessive hy-

\*Read at annual meeting M. S. M. S., Flint, 1922.



pertrophy of the remaining lymphoid tissue of Waldeyer's ring. Of still more importance, there is a growing belief that the lymphoid tissue of the nasopharynx plays a very important part in the establishment of immunity against tuberculosis and other infections and that the removal of this tissue previous to the establishment of this immunity might have deleterious results. We have recently observed several cases of severe adenitis in cases where the tonsils and adenoids have been removed by competent men. It is evident that even though the tonsil route of infection is closed, other avenues of entrance of infection to the cervical glands are developed.

Immediately following the publication of Witherbee's (1) and his co-workers' article on the treatment of tonsils, we undertook the work according to their technique and our records to date approximate eighty cases where the treatment was prescribed for throat conditions primarily. Believing that many respiratory disorders in infants are associated with lymphoid hypertrophy lower down in the tract, we have treated a considerable number of such cases under the observation of several of our leading pediatricians. The treatment in this class of cases included exposures over the upper mediastinum, both from the front and in back, in addition to the ordinary throat treatments. This work was further supplemented by a more or less extensive study of the effects of X-ray exposure on diphtheria carriers. This was done in co-operation with Dr. Meader of the Detroit Board of Health and the results are being published in an article by Dr. P. M. Hickey of Detroit. (2) This work demonstrated the efficacy of X-ray exposures in the treatment of diphtheria carriers, the percentage of cures being higher than by any other method. Whether the infection was in the ear, nose or throat, there was a higher percentage of sterilizations. In addition to the action upon the Kloebs-Loeffler bacillus, it was noted that practically every throat was cleared of the streptococcus-hemolyticus and other virulent organisms. Further material for this paper was gathered from our treatment records for the past eleven years.

In reviewing work done upon the ear, in which there was definite clinical improvement, we find the type of disturbance responding to the treatment to be largely that associated with a low grade infection, that is, the sub-acute ear of children and the more chronic ear of the adult. Results have also been satisfactory in those cases in which the radiation was given for the purpose of stimulating granulations in the retarded healing following mastoid opera-  
**tion.**

Much has been written regarding the relief of otosclerosis, but our experience has been limited to two cases and no conclusions could be drawn. Results claimed by other workers, however, indicate a high percentage of improvement in otosclerosis. Many ear symptoms associated with obstruction of the eustachian tubes by pharyngeal conditions of course are relieved by exposure of the nasopharynx.

We have had little experience with diseased conditions of the nose and nasal accessory sinuses. We have treated cases of chronic paranasal sinus disease, but the results have not been encouraging.

The greatest satisfaction has been derived from treating those cases presenting the various types of lymphoid hypertrophy. We are able to classify our younger cases in three groups:

Group 1. In which there is hypertrophy of all of the elements of Waldeyer's ring, the hypertrophy being of the simple type. The symptoms in these cases are largely those of obstruction to the air passages from the hypertrophied tissue. We have had no failures in this classification. We believe that this is the ideal case for radiation and furthermore, that surgery is contra-indicated.

Group 2. Those cases in which the tonsils have been removed and also a more or less complete removal of the adenoid tissue of the nasopharynx, in which there has been only temporary improvement from the surgical treatment. In this class also, the percentage of satisfactory results is high. The new lymphoid tissue stimulated to growth by the removal of the faucial and pharyngeal tonsils responds to the treatment as readily as the original lymphoid structure.

Group 3. Includes those cases of hypertrophy of all of the lymphoid structures in the nasopharynx, associated with evidence of repeated or active infection. Our series in this group have not been of sufficient number to permit of conclusions of value. It is in this type of case that Pacini (3) recommends the combination of ultra violet ray and the X-ray. Pacini, however, classifies the infected tonsils into two main groups, dependent upon the degree of inflammatory change. In the first group the treatment indicated would be the combined ultra violet ray and the X-ray, the ultra violet ray having definite antiseptic and germicidal action and the X-ray affecting the atrophic changes. In the cases showing the more advanced inflammatory changes, in which the tonsils are markedly reddened and congested, the surgical method alone should be considered in the treatment. Also, the cases showing the serious complications of tonsil

infection, such as endocarditis, pleurisy or arthritic changes, should not be subjected to the slow therapeutics of radiation.

There is a group of cases in young children which cannot be properly classified under the nose and throat group, for the pathology in the upper respiratory tract is of less importance than the changes in the lymphoid tissue surrounding the lower trachea and inner bronchi. Cases in this group are subject to frequent colds, with attacks of asthma, either thymic or bronchial. The children are usually anemic and under-weight. The response to treatment here has been prompt and in many cases complete.

The adult cases can be conveniently grouped as:

Group 1. Those in which the tonsil is definitely hypertrophied, but not actively inflamed. The tonsillar crypts may be deep and contain pus. The results in these cases are just as satisfactory as those obtained in Group 1 of the child. There is rapid diminution in the size of the tonsil, the contraction of the tonsil permits of proper drainage of the crypts and as a result, freedom from arthritic symptoms occurs early in the course of the treatment.

Group 2. Those cases in which there is a history of tonsillectomy and removal of the adenoids. Examination of these throats reveals tags of lymphoid tissue in the position of the faucial tonsil or diffuse hypertrophy of the lymph nodes about the pharyngeal wall. These cases usually give a history of recurrent sore throat and in some cases symptoms suggesting toxemia. Very satisfactory results have been obtained in this group.

Group 3. Those cases in which the tonsils are small or buried, in which there is an excess of fibroid tissue. Usually the faucial tonsils and all of the throat structures show congestion and other signs of pharyngitis. We have obtained practically no results in this type of case.

No reference will be made to the treatment of tumors, malignant and otherwise, of the ear, nose and throat. We have used therapy, both superficial and deep, and have also used radium in certain cases, but we consider this subject as properly coming under the heading of general surgery. In the same way, the question of the treatment of chronic specific infections has been left to the consideration of others on the program.

#### TECHNIQUE

The technique that we employ is that recommended by Dr. Witherbee, subject to variations adapted to the individual case. Any equipment of the capacity of 80,000 volts can be used. The Coolidge tube is necessary for

the accurate control of the dosage. The amount of current used is 5 milliamperes, the skin target distance varies from 8 to 10 inches, and the time from 3 to 8 minutes, the filterage varying from 3 to 4 m. m. of aluminum. The time for children is less than that for adults and the more chronic cases of adults call for more exposure than the simple hypertrophies. Regarding the size of the area of exposure, this need not be more than  $2\frac{1}{2}$  inches square and the treatment can be given through a cone of this size or leaded rubber can be used to protect the tissues surrounding an opening of this extent. Some little work has been done following the deep therapy methods, but no reports as to results are obtainable. We believe the original method to be the more desirable. The position of the patient on the table is prone, with face turned to the right or left, depending on the side being treated. The central ray is directed through a point in the center of a line drawn from the tip of the ear to the hyoid bone. Thus, the central rays pass just behind the angle of the jaw. Both sides are given treatment on the same day. The dose is repeated every twelve or fourteen days. In the simple hypertrophies, results are obtained in five to seven treatments, but in the more chronic inflammatory conditions, ten to twelve treatments may be necessary to obtain the desired results.

With reference to the treatment of the cases in early childhood showing bronchial asthma, we give a similar dose to the posterior mediastinum, opposite the bifurcation of the trachea, and on alternate weeks anteriorly with the central rays directed through the level of the second rib. This treatment to the anterior and posterior mediastinum should be supplemented by exposures of the region of the nasopharynx.

#### CONCLUSIONS

1. Radiation through the upper respiratory passages has a definite action on the bacterial flora, as evidenced by sterilization of the throat, both as regards the Kloebs-Loeffler bacillus and the hemolytic-streptococcus and other organisms.

2. Case of simple lymphoid hypertrophy, both in the child and in the adult, should be treated by radiation rather than by the surgical removal of the offending tissue.

3. There is a type of lymphoid infection in which satisfactory results will be obtained only by the combination of the ultra violet ray and the X-ray.

4. Actively infected tonsils should be surgically removed. This includes cases showing the usual serious complications of tonsillitis, such as endocarditis, nephritis, acute arthritis, etc.

5. Little or no beneficial results are obtained in treating tonsils of the fibroid type.

6. Post-operative radiation will increase the percentage of surgical cures.

7. The stimulating action of the ray can be used to overcome low grade infections of the middle ear and also stimulate healing in the several areas.

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#### DISCUSSION

DR. V. M. MOORE, Grand Rapids: Since Witherbee made his first report on the treatment of the tonsils a sort of wave of enthusiasm swept over the country and apparently took some people off their feet. Witherbee reported about 500 cases and gave no contra-indications whatever, claiming that the X-Ray was the only method of choice and that it would cure every case. After hearing Witherbee and talking with him I was not entirely impressed with the glowing reports he made, but still I had nothing to disprove what he had said. I therefore attempted to carry out some little investigations that I hoped might throw some light on this subject. In collaboration I took ten cases, five children and five adults, showing chronically infected tonsils. We treated one tonsil, covering the other tonsil with a pad of lead held in the mouth throughout the treatment by an assistant. At this time three treatments only were given, as recommended by Witherbee. After waiting two weeks from the time of the last treatment, both tonsils were removed and sent to Doctor Warthin of Ann Arbor for examination. At the time of removal cultures were made and we took notes as to their appearance. Doctor Warthin reported that he could see very little difference in the condition of the two tonsils following this treatment. The tonsil which was covered up appeared to be larger than the one treated, but the cultures were practically identical—cultures made by an incision into the tonsils with a sterile knife. In thinking this over I came to the conclusion that the tonsil that was covered really must have received some radiation, either secondary from the lead, or radiation from the tissue. We are therefore trying now a little different idea—that is, to remove one tonsil before beginning the treatment and treating the other tonsil. We now have a case all ready for the second operation and I hope that we will get some definite information as regards the effect of radiation in these cases.

As Dr. Evans said, the old chronic cases that have systemic infection do not seem to be suitable for treatment. Cases in which a great deal of fibrosis is present in the tonsils do not seem to respond to the treatment at all. They look about the same afterwards—they are just as red and have not reduced any in size and have just about as much infection. I do not believe these cases will ever be suitable for radiation treatment. Cases of simple hypertrophy in children seem to respond very well to a few treatments. The glands of the neck which are so commonly present disappear usually rather early. But in the middle class of

cases, those with infected tonsils in which as yet no systemic disturbance is present, is where we are uncertain of our ground. A few cases do not decide the matter. All of us who have treated these cases have seen recurrent cases clear up. The tonsil looks apparently normal and to all intents and purposes the tonsil is normal. I have seen other cases in which after treatment the oto-laryngologist can open up an abscess in the tonsil and find pus, and there is doubt in my mind whether it will take care of this infection. On the other hand, I think in cases of tuberculous glands of the neck which respond very well to radiation and apparently have no crypts to empty the infection out, it will in certain cases take care of the buried infection in the tonsil.

The question is not decided. The co-operation of the oto-laryngologist is absolutely essential. A number of radiologists are treating cases that do not come through the regular channels, and I think it is a grave mistake. I think the cases to be treated should be carefully chosen by the throat specialist, and when those are carefully checked up there should be no feeling on one side or the other. The only question should be to try to determine whether there is any value in this method in this middle class of cases.

I do not think there are any particular contra-indications as far as after results of treatment are concerned. We have been treating tuberculosis glands of the neck for years and we have not seen a hyperthyroidism develop, we have not seen any permanent dry mouth, and we have not seen any atrophy of the skin, so I do not believe the sequelae from that standpoint need be considered. But the whole question comes down to the fact whether it will put these tonsils back into normal condition, and if it will do it in certain cases we want to know in what type, and if it will not do it at all we want to know. I think the radiologist with the co-operation of the oto-laryngologist should help us clear up this point.

DR. LEO C. DONNELLY, Detroit: I have given some ten thousand ultra-violet treatments, but I do not wish to appear here as believing that I know very much about ultra violet rays. Personally, I do not believe anybody knows very much about ultra-violet rays, but many of my patients claim they are benefited. Many patients with active tonsillitis after taking the treatment will swallow and say, "Doctor, that feels better." Some patients with acute tonsillitis clear up in two or three weeks, and in three or four days some will think they are well. I have had many sinus cases come to me, some chronic cases that have been going on for twenty-five or thirty years. Some of these people say they believe the ultra-violet ray helps them. I do not say it does. I use the ultra-violet ray as an adjunct. It will not do everything, but it will help, and if you use it in your throat work as an adjunct, I think most of you inside of three years will believe in it. But you must develop a technique, and you must do it yourself, not leave it to a nurse, any more than you would turn over surgery to a nurse.

DR. BURT R. SHURLEY, Detroit: I have been interested in this subject for a long time. I have tried to conscientiously sift out some of these cases and refer them for radium and X-Ray therapy where it seemed to be needed. It seems to me that this is purely an experimental proposition at the present time. It must be standardized before we can definitely promise results, and of course the papers we have heard this morning are along that line—standardizing and getting more definite information as to what we may expect. I think the patient, too, should thoroughly understand that



this is an experimental method of treatment at the present time; that we are trying to standardize the method as to the removal of tonsils and checking the pathology, but that any further treatment must be considered as experimental at the present time.

When we first received the surprising information that tonsils could be removed by the X-Ray, we found some of our patients were going to New York to have this marvelous method used upon them—those who were afraid of operation, or those who were timid on account of some unfortunate result of some sort—and of course we tried out this procedure. My X-Ray man went down to New York to get the technique and came back and we resorted to this method of treatment in cases that seemed to be bad risks for a tonsillectomy, or in very old people who for many reasons required palliative measures. The first four cases we treated with the X-Ray developed an acute tonsillitis, and while the tonsillar tissue seemed to be reduced at least one-half in some of these cases, the pathology of the tonsils as far as we were able to observe still existed.

There is no question about the value of the X-Ray in tubercular cervical glands, and undoubtedly the question of X-Ray technique is of the greatest importance. It must be standardized, and it must be done properly. Then we must select the cases with the greatest care, and if those who are particularly bad risks can receive some benefit from the X-Ray we should certainly have some definite information and know just which cases to treat and refer to the radiographer.

In regard to radium, I still believe that if a man has a polypoid or ethmoid disease it must be eradicated by surgical measures first, and if radium will prevent the return of the polypoid, of course, we shall be very glad to make use of it.

DR. ROY B. CANFIELD, Ann Arbor: At a recent symposium on this subject at the meeting of the western section of the American Rhinological, Otolaryngological and Laryngological Association in Buffalo, this matter was pretty thoroughly discussed. It developed that the enthusiasm for X-Ray treatment of the diseased ear, nose and throat was felt chiefly by the radiologists, while those surgically minded were rather pessimistic about it. The conclusion apparently arrived at was that in diseases of the ear, nose and throat radio therapy had not yet proved of value. This seemed to be especially true of infections of the tonsils. In quite a long series of cases—I think about 70—that had received X-Ray treatment, and that afterwards were examined clinically, bacteriologically and pathologically, it seemed pretty definitely proven to those who had carried on the investigation that X-Ray treatment had not been of service to these patients. Those cases that had been carrying the diphtheria bacillus were proved to have it still present.

To those who know something about the pathology of otosclerosis it would seem difficult to believe that new bone formation in the internal ear associated with an aplasia of the nerve could be affected by any method of treatment whatsoever. On the other hand, it does seem to me that radio therapy does have a very definite value in certain conditions which the oto-laryngologist meets. It has been our custom at the University clinic to give routine X-Ray treatment of the thymus before doing any adenoid or tonsil operations in young children. On account of the large number of such children it became necessary to select those cases, so that now we give a preliminary thymic treatment to children who are to have their adenoids and tonsils removed and in whom there is any possibility of enlarged thymus. We know definitely that an X-Ray ex-

posure of three minutes with the coarsest tube has a definite effect on the size of the thymus. We know that at the end of four hours after the treatment the thymus is appreciably decreased in size, and that this decrease in size continues for about twenty-four hours, at the end of which time the effect has reached its maximum. Consequently we believe that these children, who might possibly react badly to a surgical operation, pass through this operation more successfully if they have had this treatment. We give preliminary thymic treatment in cases of foreign body in the bronchus or esophagus. These children seem to pass through instrumentation more easily, they react less, they take the anaesthetic better, and in general they seem to pass through this experience much more satisfactorily to the operator than when they have not had this preliminary thymic treatment. We all know there are certain types of children that do not do particularly well after an adenoid or tonsil operation, no matter how clearly the operation be indicated. These children have lymphoid tissue in the pharynx and nasopharynx even after a well performed adenoid and tonsil operation. Very often they develop a cough without much pathology as far as the internist is able to discover. They are supposed to have a mild bronchitis which does not do much harm but annoys the parents. They cough for several years, perhaps until they are ten or twelve years of age, at which time the cough disappears. In other words, after they have passed through these periods of extraordinary development they do not seem any longer to need the lymphoid tissue and there is an aplasia of the lymphoid tissue and the child improves.

While the radiologist is most enthusiastic about the treatment, the laryngologist is less enthusiastic, and yet the laryngologist is enthusiastic about adenoid and tonsil operations, of which great numbers have been unnecessarily performed and a great many very badly. We know in our own hearts that we are not having 100 per cent success, and we look to our colleagues working in other lines to help us out on this thing. I believe there are types of children which might be better if they were not operated and which might be definitely improved by the use of radio therapy. In this connection I want to mention the fact that with us at the University it has been proven that the lymphoid tissue of the pharynx and nasopharynx does have a very definite function and that this function is most clearly seen during the earliest periods of life—during the first year of life. It is during the first year of life that the child develops most rapidly. During the second year it does not seem to change much; then about the beginning of the third year there is a change, and then there is very little difference up to six years when it starts to school. You do not see much change from that time until it is eight or nine, and then again at about twelve. These are the periods of lymphoid tissue hypertrophy, between which periods the lymphoid tissue becomes smaller. These are periods of sore throat and inflammation. If a child is deprived of his lymphoid tissue during the first year of life he immediately builds up a tremendous mass of it and so on until at seventeen or eighteen you can take it away without doing him any harm. In these types of children it seems to me that adenoid and tonsil removal is especially contraindicated. If we can decrease the infection in this lymphoid tissue by the use of the X-Ray in these children, turn these cases over to the radiologist, we have gotten rid of a very interesting class of cases which perhaps they can do a service to.

I would like to emphasize the value in my experience of radiotherapy in caring for the potentially

thymic children, and I would like to suggest to all of you that you use radio therapy in such cases, especially in cases of foreign body in the bronchial tree.

DR. MYRON W. CLIFT, Flint: I would like to say a few words from the standpoint of the Roentgenologist. Up to the present time we have rayed approximately 200 cases for tonsillitis, and we feel we are not in position to take a very decided stand as to the efficacy of radio therapy. This is true in our experience, that a very large proportion of our cases are symptomatically better. We have not had any 100 per cent results, but at the present time we are trying to get all our patients back and form some statistics. My general impression is that a fair proportion of them perhaps show a much better history as to sore throat and infection than they did prior to radiation. We have had a considerable number of cases which have remained practically unimproved, and so far as we could see without any change one way or the other in the tonsils. Just what that proportion is I do not know yet.

In considering a subject of this kind it seems to me we must take into account some of the fundamentals we all know. First of all we all know absolutely that the X-Ray has ability to destroy lymphoid tissue. As far as experimental data is at hand the X-Ray or radium affects the tissue pretty much in a line running up from the embryonal tissue to the more mature tissue. The early reports in regard to X-Raying the tonsils showed that after adequate radiation we had a destruction of the lymphoid structures of the tonsils, leaving behind it a mass of fibrous tissue. In other words, the radiation destroyed the lymphoid tissue, but stimulated the production of fibrous tissue. So in applying radiation to the tonsil we have not only the lesion of the tonsil, but a mass of scar tissue left in place of the tonsil. The potentialities for future infection in that area it seems to me would be just the same as in any other scar tissue. I do not think there is sufficient evidence to warrant us in believing we can sterilize that tissue, bacteriologically speaking. Experiments have not proven that the Ray can kill bacteria. On the other hand, there is evidence such as Dr. Evans has given you, that it does in some degree change the character of the surrounding area and in a secondary way affect the bacteria. Personally, I feel we must have a lot more data in order to say how much advantage there is in its use on the tonsils. I am sure that in those cases that have a history of quinsy and peritonsillar abscess there is no use attempting to give them radium therapy; they are no better. I think it will take time, and in order to settle the question definitely I think it will take some institution like the Rockefeller Institute that has properly equipped laryngologists, X-Ray men and pathologists to work this question out. That would clear the atmosphere a lot. There is a lot of stuff published on this question that it seems to me has very little scientific foundation.

DR. CHARLES H. BAKER, Bay City: It has been a question in the minds of many of us as to how much dependence we could place on the various rays which are claimed to be beneficial. I think the consensus of opinion, after hearing these two papers, is that we still have a lot to learn. There has been some good accomplished, but I am in doubt as to whether we are on the right track yet. In the first place, it has been shown that as a bactericide both kinds of rays are useless. They do not destroy the pathogenic germs. We do find the claim that the use of the ray in cases of diphtheria carriers cuts down or removes the presence of the germs.

Dr. Canfield refers to a certain type of patients

in whom he finds a contra-indication. I think the physiologic changes that go on in early life must be considered. The Ray has an effect on the thymus and reduces its activity. The thymus belongs to the lymphatic system. The same ray that diminishes the thymus will also diminish the lymphoid tissue elsewhere in the neck, and if you diminish the activity of the lymphoid tissue you make it less suitable ground in which the diphtheria germ may grow, and that may be the reason why the diphtheria germ disappears by the use of the X-Ray. The people who are interested in endocrine study tell us that the thymus gland is a brake upon the activities of the other endocrine glands. They also tell us that the thyroid is the most combatant of any bacterial infection; that an active thyroid will check and limit bacterial activity and render children immune, and that these cases which are referred to us are those in which the thyroid is subnormal and is not doing its full duty as a destructive agent. It will probably be found if you investigate these cases further that the thymus is acting as a damper on the thyroid and if you put them under the Ray you control the thymus, you take off the brake, and the thyroid performs its normal function. In that case the patient will improve by the X-Ray or radium through the action upon the endocrine glands.

One question I want to refer to and that is the action of the Ray in preventing the return of nasal polypi. I think if you correct the underlying pathology you can expect a cure; but if you do not the polypi will continue to return, whether with radium or without.

DR. DON M. CAMPBELL, Detroit: I rise to rescue this discussion from the anaesthetic influence of the tonsil question. When the tonsil question is introduced we are apt to forget that there were other things said in these papers that did not refer to the tonsils—things that are very important and should not be passed over without some comment. I refer to the influence of the X-Ray in the stimulation of the healing process in a mastoid wound when healing has entirely ceased. The therapeutic use of the X-Ray in those cases has in my hands, with the help of Dr. Evans, been a chapter of real interest and pleasure. The therapeutic X-Ray has a decided influence in stimulating the slowly healing mastoid wound.

Another thing is mentioned by Dr. Loucks, and that deals with one of the very difficult problems of ophthalmology, and that is the management of vernal catarrh. There is no disease that has so long resisted our efforts to even improve as has this very disagreeable recurring infection of the conjunctiva during the hot months of summer. We have had several cases of vernal catarrh which we feel are cured with one or two applications of radium. That I believe is a thing which should not be entirely passed over, even though the tonsil is being discussed.

Another thing (I do not know whether Dr. Loucks referred to it or not) is the influence of radium upon an intra-ocular growth of great importance. I refer to retinal glioma. There have been some instances recorded in which both eyes had glioma, or in which one eye has been enucleated for glioma and suddenly it developed in the other eye. In those cases radium has had a very happy result in controlling the progress of the disease.

I want to say one thing about the tonsils, and that is that taking a comprehensive view of the subject of hypertrophy of the lymphoid tissue of the tonsils—this is not a disease but the result of a disease, and the removal of that by the X-Ray has always appeared to me to be the removal of the result of infection, and when we do that we leave



the status quo exactly as it was before the lymphoid tissue became hypertrophied, consequently we leave a condition in the throat which will be favorable for the reproduction of the disease which we have under consideration.

The influence of the X-Ray on the bacteriology of the tonsil was discussed in the meeting at Buffalo which Dr. Canfield mentioned, and one thing which appealed to me was that in the case discussed the smear was made by a Buffalo man (not Dr. Cott.) He took two tonsils, both diseased, and put them in test tubes. One he subjected to extensive X-Ray emanations over a considerable period; the other he did not subject to this treatment. But the subsequent bacteriological examination showed that the one that had been subjected to X-Ray treatment was exactly the same in flora and in the number of bacteria as the other. I do not know how much that means bacteriologically, but it appealed to me as being a very interesting experiment.

Another thing brought out at that meeting was the influence of the X-Ray upon the surrounding lymphatic structures, the carotid, the thyroid and the pituitary body—its importance in influencing future growth. However, I gather from Dr. Evans' paper that the technique has been developed in such a way that the X-Ray can be confined to some one place, so perhaps the outlying lymphatic structures can be protected.

I have found in my own experience that X-Ray treatment of tonsils has a place. There are a number of instances where one does not wish to subject a patient to the risk of surgical intervention, and in such cases as that it seems to me it is of real value.

DR. WILLIAM EVANS, (closing): Some thirty years ago as a young student I worked with Dr. Baker, and at that time I got my start towards conservatism. We are not far apart. I pointed out that my best results were with children. In reporting on the beneficial action of X-Rays, I am supported by many of my roentgenological friends, among whom are Dr. Allen of Springfield, a physician of wide clinical experience; Dr. McCandless of Kansas City, and others. Even allowing for enthusiasm, I believe we can give definite aid in the treatment of some diseases of the ear, nose and throat.

DR. R. E. LOUCKS, (closing): Anything given in my paper is the result of practical experience, and I would like to contradict the impression given out that this work is experimental. It is a fact, and we have the cases to prove it.

As regards the question of the thymus gland that Dr. Campbell spoke of, it is very important and we have done some research work along that line—the lymphoid tissue and the thymus gland. The thymus gland has not been clearly described, and we know that in certain cases we have a hyperplasia which is the result of something else. When we have a child that we think was a hyperplasia of the thymus gland I think it should be referred to the internist and pediatricist to get at the cause. If it is absolutely necessary to do an operation of any kind, the thymus gland should be X-Rayed to determine whether you have a hyperplasia or not. The thymus gland has been spoken of as treated by the X-Ray, but why give the X-Ray by the spark when you can put an innocent little pad there containing 50 milligrams, properly screened, and know absolutely that the thing is diminishing in size within twenty-four hours; or if your treatment is an eight-hour treatment, four hours on side and four on the other, or two hours in one place and two in another. If a child has hyperplasia of the thymus and it does

not die within twenty-four hours, it will live. You can prove this by the X-Ray shadow.

Another very interesting question is the conservation of the lymphoid tissue. My own opinion is that we will conclude in the next year or two that the X-Ray can be given to all children up to fourteen years of age; after that it may be given as it is now.

Another consideration is the statement that the tubercular tonsil should not be removed, but the child treated by the ultra violet ray. The ultra violet ray has a field, and if there is any bacteriological measure that has a place, use it. We do not claim any bacteriological action for radium, but we know that the ultra violet ray has a bactericidal effect, and if you have a tubercular tonsil it would be a precautionary measure to use the ultra violet ray, and then if you want to do a tonsillectomy, all right.

## TRUE ECLAMPSIA AND RENAL ECLAMPSIA\*

WALTER E. WELZ, M. D. F. A. C. S.

Case 1.—Personal Record 21,220. 3 Para, 27 years of age. February 20, 1917 convulsions, followed by the instrumental delivery of an eight month fetus, still born. October 24, 1918, normal delivery of living mature child; no toxemia during entire pregnancy. December 6, 1921 normal delivery of living mature child; no toxemia during pregnancy. Perfect health after first delivery.

Case 2.—Department of Health Record No. 28, 1921, 4 Para, 33 years of age. 1907 normal pregnancy and delivery. 1919, normal pregnancy and delivery. August 26, 1920, convulsions, followed by still birth at Kiefer Hospital. In the fourth pregnancy patient attended the Prenatal Clinic regularly from June 14, 1921, to December 3, 1921, when she was delivered of a living child at Kiefer Hospital. During pregnancy she was under careful supervision for toxemia, the result of glomerular nephritis. The outstanding symptoms during this period were high blood pressure, optic disc atrophy, slight increase in blood non protein nitrogen, polyuria, constant trace of albumin, no casts and low phenol sulphone phthalein output.

Case 3.—Department of Health Record No. 863, 1922. 3 Para, 22 years of age. September 8, 1920, convulsions followed by eight-month still birth. May 11, 1921, still birth of 30 weeks development. Pregnancy was under supervision of Prenatal Clinic. Prominent symptoms were pasty complexion, general edema, slightly increased blood pressure, decreased phenol sulphone phthalein output, decreased excretion of urine, marked albuminuria and casts. At present patient is again pregnant about 10 weeks. Blood pressure is 122-78, urine has trace of albumin and there is marked edema of the lower legs.

These three cases are all classed as eclampsia. According to my view, Case 1 was a typical case of eclampsia with perfect recovery of health. Cases 2 and 3 were primarily cases of nephritis before the beginning of pregnancy and the convulsions in these were the result of renal insufficiency occurring during pregnancy. To distinguish these from true eclampsia I shall call these renal eclampsia.

In the medical text books and literature

\*Read at annual meeting M. S. M. S., Flint, 1922.



there is no attempt made to classify toxemias, which result in convulsions in late pregnancy and labor. Hundreds of case reports are published under the nomenclature eclampsia which are clinically quite different. Then a set of dogmatic rules for the care of eclampsia is followed without regard for the indications in the individual case. The inability to distinguish one type of eclampsia from the other results in confusion on the part of the medical attendant. The result is a higher mortality rate than should follow proper classification and care of such cases.

I shall make an effort to distinguish true eclampsia from renal eclampsia. True eclampsia is a toxic condition of late pregnancy produced by a toxin which is generated as the result of pregnancy in a previously normal woman. In my experience, this has occurred only in first pregnancies. Renal eclampsia is a toxic condition which may occur any time during the pregnant state as the result of renal insufficiency. This is always the result of a previous nephritis; there may be exacerbations during pregnancy. It may occur in any pregnancy, but is more frequent in multiparae. The individual affected may be unaware of the presence of the nephritis until the diagnosis is made during pregnancy, or in neglected cases after recovery following convulsions. The strain of pregnancy added to already damaged kidneys results in renal insufficiency in pregnancy which is usually confused with the true pre-eclampsia toxemia.

The most characteristic pathologic changes of true eclampsia are found in the liver. These consist of thrombotic processes in the smaller portal vessels and areas of necrosis of liver substance at the periphery of individual lobules.

(1.) \*Heinrichsdorf after a review of this subject states that these lesions are pathognomonic when present, but were not always present in the cases classed clinically as eclampsia which he examined. The majority of eclamptic cases which have gone to autopsy have shown renal changes from acute or chronic nephritis with degeneration and necrosis of the epithelium of the convoluted tubules.

(1.) \*\*Bar in 38 autopsies found severe renal lesions in one half of the cases examined by him and slight lesions in the remainder. As early as 1881 (2) \*\*\*Ingerslev showed that urinary changes noted by various observers have not been uniform in all cases

In the reports from post mortem exam-

inations made in the past, each case was diagnosed as eclampsia clinically because of the presence of a single symptom, convulsions. The pathologist in his reports has shown such a variation in pathologic changes, that one suspects that there must be different basic diseases to produce such variations. Had these cases been properly classified clinically after a review of all the symptoms of each individual case, there would have been greater uniformity in pathologic reports. Those cases in which characteristic hepatic and minor renal lesions were found, may be taken as true eclampsia. Those with major renal and minor hepatic lesions were probably renal eclampsia. In the future a more careful clinical diagnosis will probably co-ordinate a clearer pathologic picture from the pathologist. This can only be done by the obstetrician giving the pathologist complete, clear cut data of an individual case. Also a definite clinical diagnosis will help the pathologist to affirm or disprove the primary diagnosis. When the pathologist has completed his examination, a careful report by him is essential to check the clinical diagnosis. By following this procedure the cases of toxemia of late pregnancy will tend to be classified as true eclampsia or renal eclampsia.

Those cases which recover from true eclampsia show no clinical signs of impairment of vital organs or vascular changes.

#### THE CLINICAL COURSE OF TRUE AND RENAL ECLAMPSIA

In this paper the term eclampsia will be used to designate not only those cases which reach the stage in which convulsions occur, but also those cases which are of the same type of toxicity which have not reached the peak of toxicity in which convulsions and coma occur.

True eclampsia runs a typical clear cut course. During the first half of pregnancy the patient is normal with normal blood pressure, renal function and urinary excretion. During the second half of pregnancy there is a period of toxic increment which gradually passes to the toxic fastigium when convulsive seizures are apt to occur. Following this is a period of toxic decrement in which the toxemia rapidly disappears and the patient returns to normal health. One must keep in mind that the course of the disease usually covers a period of weeks and not merely the few days in which convulsions occur. The majority of eclamptics are seen by the medical attendant only at or near the crisis. So he does not visualize the disease as it should be with periods of pre-eclamptic advance and post eclamptic recession to the normal. There is a considerable

\* (1.) Heinrichsdorf Zeitschr. f. Geb. u. Gyn. 1912, 1xx, 620-655.

\*\* (1.) Bar at Guyeisse L'Obstetrique 1897 ii, 263.

\*\*\* (2.) Ingerslev Zeitschr. f. Geb. n. GYN 1881 VI 171, 212.

variation in the degree of toxicity in different cases from the mild to the fulminating type. Rarely the toxemia develops rapidly in a short period of time and results fatally in spite of any treatment.

The blood pressure during the entire disease runs a course almost parallel with the toxicity. Before the onset of the toxic state the blood pressure is the average for the individual. As the toxicity increases so does the blood pressure. The highest pressure is reached at the peak of the disease when convulsions are apt to occur. The pressure drops rapidly after the peak is passed just as the toxicity disappears rapidly. After recovery the blood pressure again runs the same normal course for the individual that was present before the eclampsia began. So the clinician in a given case can make use of the sphygmomanometer to measure the degree of toxicity almost as he can measure the degree of fever in typhoid by means of a thermometer. One should know the normal blood pressure for an individual before the advent of the toxic state, so as to be able to judge the variation from the normal for the individual during the eclamptic state.

In the first half of pregnancy before the beginning of the toxic state the urine is normal. It may remain normal even in the pre-eclamptic state, though there are usually urinary changes as the toxicity reaches the fastigium. Nucleo albuminuria is usually a precursor to serum albuminuria. The amount of albumin excreted is usually not great. Casts appear as the toxicity increases; these, however, may be absent. The amount of urine excreted is usually about normal for the individual. The functional capacity of the kidneys becomes slightly decreased at the height of the disease.

There is not much alteration in the blood chemistry. During the peak of the disease there is usually a slight increase of non-proteid nitrogen. Acidosis is not present.

Edema is absent or present to a slight degree. When present it is usually most marked on the face. It usually involves only the skin.

Almost invariably subjective symptoms are present before the onset of convulsions. Epigastric and visual disturbances, headache, insomnia or somnolence and increased nervous irritability are present. It must be kept in mind that even severely toxic cases may be unaware of impending danger because they appear and feel well until the peak of toxicity is reached.

Renal eclampsia is divided into two classes which follow chronic interstitial and chronic parenchymatous nephritis.

Renal eclampsia may or may not follow a history of former nephritis. Not infrequently

renal injury has occurred in infancy following infectious diseases, or it has not been recognized, though present during a period of illness antedating pregnancy by years. During the first half of pregnancy in cases of renal eclampsia the result of interstitial nephritis, there is present high blood pressure, polyuria of low specific gravity, very slight albuminuria, rarely casts. The functional capacity of the kidney is decreased early in pregnancy and this becomes more marked as the toxicity increases. Nocturia is present usually. There is slight or no edema. As pregnancy advances especially during the last four months there is a considerable increase over the average high pressure for the individual. Systolic pressure commonly rises to between 200 and 300 m. m. After delivery the drop in pressure is not great and it continues the high average which was present before pregnancy occurred. Cardiac hypertrophy is always present. There is a tendency to cerebral hemorrhages as well as retinal hemorrhages and optic disc atrophy. There are apt to be continuous headaches. Blood examination usually shows increase of non-proteid nitrogen. Uric acid increases first, then urea and last creatinin just as in uremia. Before the onset of convulsions subjective signs, particularly amaurosis, give warning. These women frequently miscarry or give birth to premature stillbirths without convulsions. After delivery all the cardinal symptoms of chronic interstitial nephritis remain.

Renal eclampsia the result of chronic parenchymatous nephritis follows a different course from that which results from chronic interstitial nephritis. There is usually a history of previous nephritis of the tubular type. Before pregnancy commences there are typical symptoms of this condition in the severe cases. These are slightly increased blood pressure, pasty complexion, slight anaemia, slight edema, decrease in urinary output with casts and considerable albumin present. When renal damage is slight these symptoms are almost absent or too poorly developed to attract notice of the medical attendant.

The blood pressure at the beginning of pregnancy may be so little above normal as to deceive one as to the presence of renal damage present. The pressure runs a typical curve of toxicity as in true eclampsia with a return to the normal for the individual after recovery. The pressure does not rise so high as in the other forms of toxemia and at the peak it attains a level which is lower than that of true eclampsia and much lower than renal eclampsia of the glomerular type.

Edema is the most prominent symptom of this type. If not present at the beginning of

pregnancy, it appears during the first half of pregnancy. Usually it commences at the feet and gradually rises to the body. Edema of the face and hands develops as the condition advances. As the kidneys fail in functioning capacity anasarca develops and there is a tendency to development of serious effusions. Also edema of the lungs is apt to appear suddenly. After recovery there is gradual resorption of the fluid. During the stage of increment the retention of fluid in the body causes a great increase in weight. As recovery follows a loss of weight up to 60 or 70 pounds results. Always abnormal urinary symptoms are present at the beginning of pregnancy. Serum albumin is found in varying quantities from a trace to very heavy deposit. As renal insufficiency develops the percentage of albumin greatly increases. As edema develops there is a decreased output of urine. Casts are present in considerable quantity. At the stage of greatest insufficiency, red blood cells are usually found in the urine. Phenol sulphone phthalein tests indicate very low renal functioning capacity.

Albuminuric retinitis is present in marked cases.

There is a tendency for pregnancy to end prematurely and the severer cases have series of premature stillbirths.

Recovery after termination of pregnancy leaves the patient with characteristic symptoms of parenchymatous nephritis.

It is not always possible to distinguish the two types of renal eclampsia. Just as in the non pregnant there may be involvement of both tubules and glomeruli which result in a clinical picture which can be diagnosed as nephritis, but which cannot be differentiated clearly as tubular or glomerular because both portions of the kidney are involved.

#### DIAGNOSIS

It is difficult to differentiate most of the cases of true eclampsia from renal eclampsia because they come under the observation of the obstetrician when at the height of the disease.

Even at this time the interstitial type can often be diagnosed by the very high blood pressure, cardiac hypertrophy, absence of edema, polyuria with low specific gravity and little albumin and few casts. Vascular changes and hemorrhagic tendency are marked. So also the marked cases of parenchymatous nephritis can often be diagnosed by comparatively low blood pressure, severe general edema, pasty complexion, reduced urinary output with high percentage of albumin, many casts and low renal function.

A history of chronic nephritis is val-

uable when obtained. The majority of renal eclamptics are unaware of impaired kidneys. When a history of chronic nephritis can be obtained true eclampsia can be ruled out. Multiparity indicates renal eclampsia, not true, as true eclampsia is present only in primiparous women and immunity is produced by one attack.

A history of previous premature stillbirths is indicative of nephritis when syphilis is ruled out. Low functional capacity of the kidneys usually is present in renal eclampsia. Also greatly decreased excretion of urine or suppression mean nephritis. After delivery a diagnosis of renal eclampsia can be made by demonstrating the characteristic symptoms of nephritis. Though the type may not be demonstrated, at least the marks of chronic renal damage can be clearly shown.

True eclampsia is not difficult to diagnose if one is able to follow the case from the beginning of pregnancy through labor and puerperium. The development of the toxic state during pregnancy and the recession to normal after delivery is so characteristic as to diagnose itself. The most important guide is the blood pressure which follows the course of toxicity from increment to fastigium, through decrement to normalcy, renal functional capacity is higher than in renal eclampsia. Urinary abnormalities may be absent; when present they follow the development of toxicity. The subjective signs appear at the peak of toxicity. After delivery or after the peak of toxicity has been passed, all the toxic symptoms rapidly disappear.

#### PROGNOSIS

True eclampsia is difficult to prevent. The milder type can be controlled to a sufficient degree to prevent convulsions. The fulminating type is usually fatal regardless of the care given. The prognosis is always better for those under proper supervision during pregnancy as the attendant can read the warning signals and so be prepared to act as occasion requires, quickly and decisively. The majority of cases of true eclampsia can be controlled when properly supervised. Prognosis is always graver when convulsions and coma develop. Those recovering from convulsive seizures return to normal physical condition without impairment of vascular or renal function. Future pregnancies are not subject to eclamptic toxemia and should terminate favorably for mother and child. The fetal prognosis is grave even when convulsions do not occur; after the onset of convulsions the danger of fetal death increases. Rapid, easy delivery, as by section, gives the most favorable chance for the fetus.

The interstitial type of renal eclampsia can



be controlled to a considerable degree. Proper prenatal care will prevent most convulsive seizures and almost eliminate maternal mortality. The fetal mortality will always be high as there is a tendency to prematurity of the fetus which is often macerated. Neglected cases are not only prone to convulsive seizures but also tend to suffer from cerebral and ocular hemorrhages when the blood pressure is highest. This tends to result in permanent plegias after recovery. Future pregnancies are apt to result in renal eclampsia, and feti are apt to be premature and stillborn.

In properly controlled cases of parenchymatous type of renal eclampsia the prognosis for the fetus is best. There is a tendency to premature delivery but the fetus is usually viable. Except in the very severe cases the prognosis for maternal recovery is good. Very few of the properly attended cases should terminate in convulsions. Also proper care during pregnancy tends to prevent further renal damage while neglect during this period permits further renal degeneration. This type is apt not only to develop severe edema but frequently causes severe serious effusions to form. There is also liability to result in edema of the lungs. There is always the probability of renal eclampsia developing in subsequent pregnancies. The prognosis for infantile survival in subsequent pregnancies is poor because of the tendency to prematurity and maceration.

#### TREATMENT

Individualization must be the Shibboleth in the care of all toxic cases in late pregnancy. As soon as possible the type of toxicity of the individual should be classified. Then the care of each case follows naturally along the lines of prophylaxis.

The cases of renal toxicity can often be controlled by elimination, suitable diet and rest in bed.

The interstitial type of renal eclampsia may require venesection at intervals to relieve the excessive vascular hypertension. Exclusion of proteids from the diet is necessary to reduce the nitrogen retention in the blood. In the graver cases one can limit the intake of nourishment to cream and water for a considerable period, as suggested by Von Noorden.

The parenchymatous type of renal toxemia requires proper diet and good elimination. Saline cathartics and dermal elimination of water by means of bakes is effective. Regulation of intake of fluids and table salt is necessary. Venesection is less often required than in the other type and must be carefully supervised as the anemia present may contra indicate a considerable loss of blood.

In the true eclamptic toxemia careful observation is essential as the fastigium approaches. Restricted diet and proper elimination must be supervised. Rest in bed is necessary. Venesection repeated as indicated by the height of blood pressure may be deciding factor in the prevention of development of the fastigium which carries with it the possibilities of convulsions and coma. The best results for mother and child in the fulminating type follow cesarotomy when the fetus is viable.

#### DISCUSSION

DR. JACOB R. RUPP, Detroit: The fact that there are two different kinds of eclampsia has been brought out. I believe that both of these types run a very high acid urine and by seeing them early you see the blood pressure go up from week to week. If the patient is instructed how to keep the urine alkaline the pressure will go down. In one case with a pressure of 240 we started with soda enemas, sodium bicarbonate, and found that it took about three times as much in this case to change to a normal urine. The response, however, was very satisfactory. Not long ago I saw the medical management of eclampsia brought out in an article, in place of the surgical management, and thought it was very nicely brought out how in the majority of these cases there is a severe toxemia and acidosis, which is greatly improved by alkalizing the patient. There are some proprietary articles on the market that are very useful in cases where it is impossible to get the patient to take sufficient soda bicarbonate.

DR. W. E. WELZ, Detroit, (closing): The purpose of the paper was not to bring out any line of treatment, but more to encourage better effort at diagnosis. That is brought to mind as one sees definite, clear-cut cases of nephritis constantly being treated as eclampsia, which is absolutely wrong. My belief is that the great majority of cases that go to the convulsive stage are not eclamptic but nephritic. I have constantly under my care a number of cases of definite nephritis. We cannot improve the treatment until we know what we are treating. I have seen cases in which the patient died in a three months pregnancy, with a small, contracted kidney shown on the autopsy table. The patient had a cerebral hemorrhage as the result of nephritis and to have such a case reported as eclampsia is absurd.

The most important thing is to properly diagnose the cases and then individualize the patients, not follow any one definite method. I think the medical treatment is infinitely better than the surgical.

As to the alkalinity of the blood, it has been shown by Slemmons and others that the blood is practically normal.

Also, when we take up the question of whether they have acidosis as the result of nephritis, or the result of the toxic condition, it is an absolutely different condition in each instance, and we cannot handle the two as one.

#### ACUTE COMPLETE INVERSION OF THE UTERUS\*

By L. W. HAYNES, M. D.  
DETROIT, MICH.

One of the rare complications incident to the delivery of a pregnant woman is acute complete

\*Read at 57th annual meeting M. S. M. S., Flint, 1922.

inversion of the uterus. It is given comparatively little attention in the literature and most of us give it but slight consideration until we are so unfortunate as to have the condition to deal with. Being one of the gravest complications of parturition, it is indeed fortunate that it is one of the rare ones. It seems impossible to form an accurate estimate of its frequency because the various statistical tables show such marked discrepancies.

Several months ago I sent out a questionnaire to a number of the larger obstetrical clinics throughout the United States and to a number of physicians doing a large private obstetrical practice, asking for data on cases of recent date. In this letter I asked for percentage of occurrence, probable etiological factors, method of reduction and mortality. After reviewing the literature on the subject and after reviewing the answers received from my questionnaire, I am convinced that inversion is becoming more frequent.

Thorn made an exhaustive study of 627 inversions of the uterus collected from the world's literature from 1887 to 1909 and says in reviewing the articles, that the occurrence is between one in one hundred ninety thousand to one in four hundred thousand. Carruthers says, from one in one hundred eighty thousand to one in two hundred thousand, in his article reviewing the older statistics. More recently we find these figures somewhat changed. Dr. Manton in his article on "Inversion of the Uterus", published in the *New York Medical Journal*, October 1921, mentions some 778,000 cases from different maternity hospitals, including recent cases, and there were six reported inversions. This would bring the percentage down to almost one in 110,000 deliveries. Dr. Yates, in 1920, found that in a total of over 22,000 cases delivered in four Detroit hospitals, there was one acute inversion. Since that time, in those four hospitals, with a total of about 5,000 more deliveries, there have been three cases on inversion. In the reports which I have received from different clinics and different men over the country of cases occurring in recent years, I find the average is much higher than those in earlier reports, being approximately one in 70,000 cases.

#### ETIOLOGY

We have much to learn as to the etiology. The two common causes given in most text books being, "too great pressure on the uterus from above and too great traction on the cord." Stark reports one case of acute inversion due to a tumor attached to the inner surface of the uterus at the fundal extremity. Carruthers sums up his two cases saying he believes they

were due to atony of the uterine wall. McAfee reports one case which he attended, arriving after the baby was born. No one but the nurse was present at the time of delivery and she had not touched the cord or abdomen. The placenta was adherent. He calls our attention to the interesting fact that many cases have occurred among the colored races such as the Kaffirs in whom parturition is affected in the squatting position.

I was greatly interested in the answers I received to the question of probable etiological factors. A number were inclined to place the blame on the assistant in using too great pressure on the fundus when the uterus was not contracted. Several suggested that the cord was very short and although the case was handled the same as others, they took it for granted that too great traction was used on the cord. One woman delivered herself while standing and it was supposed that the pull on the cord caused the inversion. These are no doubt often exciting causes and yet one has to explain why one case will develop an inversion and thousands of other cases do not when the same technic is used on all.

Undoubtedly one of the important predisposing causes is to be found in the fundal attachment of the placenta, as first suggested by Thorn. He believes, however, that too great emphasis has been given to errors in the conduct of labor, and that if undue pressure from above on a relaxed uterus, or too great traction on the cord were of greatest importance, then we would hear of many more cases than we do. If the figures I have collected are of any value, they show that the condition is not becoming less frequent, but the reverse, even with our continued improvement of obstetrical technic.

Inversion has occurred twice in subsequent labors in the same patient when all precautions were taken to prevent the recurrence. Carruthers reports two instances seen in the same woman in consecutive labors. This would lead us to think that in some cases there was a special predisposition. The suggestion made by Bartholomew in 1915 that it is "important to make special investigation of some possible pathological structure of the uterus whenever such a specimen can be obtained in cases that come to autopsy," is a good one. I have not been able to find where any such work has been done to date, but think it will open a good field for investigation.

Scott, in a recent article published in the *American Journal of Obstetrics and Gynecology*, reviewed the work that had been done to determine the cause of hemorrhage from the non-pregnant uterus in the absence of a neoplasm. This article tells of the work that has

been and is being done in careful study histologically, of many uteri and of the changes found in the endometrium and musculature. If such changes are found at times in the musculature of the uterus, is it not reasonable to suppose that certain uteri have a peculiar structure which is the predisposing cause of, or at least is an important etiological factor in, inversion of the uterus?

#### DIAGNOSIS

The diagnosis of acute complete inversion is not difficult and although the process of inversion is complete in most cases in a few seconds, yet there is the one subjective symptom of pain, we cannot but notice. In the case which I wish to report, the patient was under ether anaesthesia and yet she made several sharp cries as if in great agony. In the cases of mild sub-acute and incomplete inversion this symptom is not often present, but I will not go into the discussion of such cases in this paper. The second symptom is that of shock, which is out of all proportion to the amount of blood lost. The pulse becomes small and quick and some writers attribute the collapse to the reduction of pressure in the abdomen. This hardly seems a good explanation as we do not see such a collapse when a case of ascites is tapped or a large ovarian tumor is removed. It has also been suggested by Herman that it is due to strangulation of the uterus and sudden exposure of so large a sensitive surface as the interior of the uterus.

In earlier years about three out of every four cases died. More recently most writers give the figures as one out of four. The latter set of figures agree more closely to the reports I received on mortality. In this series I have included all deaths whether occurring early from hemorrhage or shock, or later from hemorrhage any time during the lying-in period, or finally from sepsis.

#### TREATMENT

As mentioned before, we have not made much progress in proving that certain individuals have a special predisposition towards inversion so there is probably nothing new to offer regarding prophylaxis. The importance of avoiding the different factors brought out under etiology is self evident. Also of great importance is the recognition of the beginning of an inversion. This practically always starts in the fundus, and with one's hand on the fundus any peculiarity or irregularity of contour can be noted. When such a condition is recognized, surely one is justified in immediately doing a manual removal of the placenta.

I find there is still a great difference of opinion as to the best treatment. The treat-

ment advised by Herman in his early edition of "Difficult Labor" was to replace the uterus at once. Oldfield, in the revised edition of a recent date, does not agree with this procedure. Most text books advise an early replacement of the uterus, while Zangermeister advised treating the shock and hemorrhage first, and then any time from one to twenty-four hours, replacing the uterus. Undoubtedly, however, the deduction made by several after the study of statistics covering large numbers of cases show that there is a higher percentage of failures of reposition and death from those undertaken one to twenty-four hours after delivery than those done immediately. It is impossible to say what is the best method of treatment for all cases. If shock is severe, replacement must be postponed and the shock must be treated by the usual measures. It has been noted that in cases of severe shock, reinversion causes more shock and may result in immediate death.

I wish to consider the treatment under two separate headings, first, when shock is severe and second, when it is not severe. In the severe type, remove the placenta if it is attached and gently press the uterus into the vagina and stop the hemorrhage. The latter can be done by using a hot saline douche, giving one half to one cc. of pituitrin and if necessary by constricting the uterus just below the cervix with a piece of sterile rubber tubing. With the hemorrhage stopped and the usual treatment given for shock and when the patient has sufficiently rallied, replacement should be attempted. Deep ether anaesthesia should be used and the lithotomy position is helpful. The left hand is placed over the lower abdomen while the right hand is passed into the vagina behind the uterus, grasping it and gently pushing upwards and forward toward the left hand. Pressure is kept up for ten to twenty minutes if necessary. Cases are reported where these maneuvers are not successful and then it is best to either try packing the vagina or using a bag or repositor. Failing in these, it becomes a gynecological procedure, the technic of which is fully described in an article by Dr. Peterson in *Surgery Gynecology and Obstetrics*, August, 1907.

Second, when the case does not show great shock it should certainly be replaced at once if possible. There are several points of procedure used in the case to be reported not noted in any previous article and although the difference of technic may be of minor importance, yet I believe they had something to do with the ease of replacement and almost normal convalescence. I will include a description of these in the reported case which follows:



## CASE REPORT

Mrs. S., Age 34. Primipara—Rather tall, slight build. Physical condition good. Had first period at age of twelve years. Had always been regular and flow lasted from three to five days. Since periods were established had no pain. Family history negative. She had never had any serious illness excepting a fistula 11 years previous to pregnancy, which was successfully operated. At this time she had two small cysts removed from ovary. She did not experience any nausea or vomiting during pregnancy. Urine was negative throughout. Wasserman negative, and blood pressure ranged from 110 systolic, 68 diastolic, to 118 systolic and 70 diastolic. Pelvic measurements were normal. The third month she developed a moderate jaundice with temperature of 102. Temperature kept up for one week and jaundice gradually disappeared. With this the patient had quite a severe cough and tenderness over lower abdomen. As life was noted and motion increased, abdominal soreness continued and she was never free from it until the baby was born.

Patient entered hospital 3:30 a. m. July 31, 1921. Pains every ten to twenty minutes—membranes had ruptured at 8 p. m. and flow of fluid had been gradual. Rectal examination was made and the head was in the pelvis, cervix was soft and dilatation was three fingers. At 5 a. m. dilatation was complete and there was rectal bulging. She was taken to case room, placed under obstetrical degree of ether anaesthesia, and a seven-pound two ounce baby was delivered without laceration. One-half CC of pituitrin was given. After waiting about twenty minutes, moderate crede was done by the assistant while I held the cord, using no more pressure than in any other case. Crede was used only when uterus was contracting. The placenta was delivered and was attached to the completely inverted uterus. The patient was not out from under the anaesthesia and as the placenta was delivered she gave several sharp cries from pain. As I noted that the mass was too large for placenta alone and was thick at the vulva, the assistant remarked that he could not find the fundus. The cord was an average length. The patient had a moderate pallor and the pulse was 120 per minute. The bleeding was only moderate and the uterus did not noticeably increase in size.

Hot packs were at once applied over the placenta and uterus and with as little exposure as possible the membranes were separated. By firmly grasping the body of the uterus with the fingers of the right hand it was pushed into the vagina as far as possible. Then with the thumb and index finger pressure was put on the side of the fundus. This portion of the inverted uterus began easily to invaginate and with a steady increased pressure with the fingers the whole uterus gradually invaginated and slipped through the cervix. The closed fist followed the fundus back into the pelvis so that the fundus could be grasped with the left hand through the abdominal wall and was held in this position while one-half CC of pituitrin was given and followed by one CC of ergot. Then 300 CC of normal saline was given in the breast tissue. During the above manipulation the pulse remained at 120 and was a good quality. As the uterus began to contract, the hand was carefully withdrawn and a plain gauze pack was inserted into the uterus. Patient was removed to her bed in twenty minutes with pulse 100 and good quality. The next morning at 11 a. m. patient was in good condition, pulse 100, moderate lochia. Packing was removed. Blood pressure 110 systolic, 70 diastolic. For ten days tenderness was only slightly more than normal over

abdomen. Highest temperature was 98.6. Pulse gradually decreased from 100 on second day to 72 on the 13th day when discharged.

I have examined the patient at intervals since the delivery. The pelvic organs regained their normal condition in the usual length of time and the patient has been enjoying excellent health. She nursed the baby for seven months and at the present time says she weighs more and is in better physical condition than she has ever been in her life.

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## DISCUSSION

DR. REUBEN PETERSON, Ann Arbor: The subject of complete inversion of the uterus is always interesting. I do not know that I have got any further along in the etiology during the last twenty-five or thirty years. However, one thing the doctor brought out in his paper seems to me significant. He said that from his research he is convinced that acute inversion of the uterus is more prevalent than formerly. This surely cannot be ascribed to lack of information on the part of the physician as to the cause of inversion. I think most men understand that if the cord be pulled upon under some circumstances inversion may take place. As I say, I think the profession is pretty well convinced of this etiological factor. It occurs to me that if inversion of the uterus be on the increase it is possible that the use of pituitrin may explain it somewhat. I am convinced from my own observations in obstetrics that we do not know as much as we should of the true effects of pituitrin. I think that even when the cervix has been dilated and there seems to be no contra-indication to the use of pituitrin, it has such an effect upon the uterus that we must regard it as a possible factor in such an accident as this. That can only be worked out, I presume, by finding out how many such cases there are in which it had been used, and judging from that standpoint. So far as the treatment of the condition is concerned, one can not take exception to the method pursued by the essayist. The only contra-indication to the replacement of the uterus is profound shock and bleeding. Under these conditions I think we have to refrain until the patient has more or less recovered from her shock. We have had only one acute inversion in several thousand cases, and in that the uterus was replaced according to the method described by the essayist, and the woman recovered. However, the pulse was much more rapid than in his patient and she was in a very serious condition, although she did not suffer much from hemorrhage.

I have another to report, a very remarkable case that occurred recently in the University Clinic. A woman was brought in with an inversion of the

uterus which occurred some weeks prior to her entrance. She had lost a good deal of blood and her condition was not good. Consequently, we thought it advisable to do an operation for chronic inversion of the uterus and packed the vagina around the inverted uterus so that she might have a chance to make up some of the lost blood. This was done by my interne and the day set for the operation. He only packed lightly, according to my directions, around the uterus, enough to control the bleeding. The patient was brought into the operating room and because I have had some experience with chronic inversion of the uterus I was very much afraid of fresh bleeding. The preparations for operation went on and I watched my interne as he pressed upon the perineum, so that he would not scrub too violently upon the inverted fundus and, much to our surprise, there was no fundus there. This light packing had resulted in complete restoration of the inverted uterus. Some cases are reported in the literature, where the uterus practically replaces itself. If that be true we have to go far to explain why the action occurs in the first place. This case was as complete as any I have ever seen, and yet the cervix relaxed and the fundus went into place.

It seems to me this subject is worthy of serious study. It does not happen often, but it certainly is a serious complication when it does occur, and I think the section should thank Dr. Haynes for bringing the subject up for discussion.

DR. H. WELLINGTON YATES, Detroit: I have not much to add to this paper, but it seems to me something could be said about the causation of this in relation to the series of facts which Dr. Haynes arrived at in regard to its frequency, which tally very well with some figures I quoted two or three years ago in preparation of a paper. I am wondering whether the more practical observation of this anomaly has been the result, in later years, of the more frequent reporting of cases by individual physicians. Societies have increased in number and in their specialties, and in that proportion I suspect that many papers by individuals not connected with large clinics, from which the data Dr. Haynes has quoted have been taken, have been presented. For instance, as I recall just now, in Moscow one of the quotations there was something like 1 to 200,000, and so on down, but these series were reported from large clinics, clinics that were under the supervision of trained men, and I suspect the extra frequency of this occurrence is because more cases are reported by people not trained to their highest efficiency.

As to causation, we are very much in the dark. We cannot say whether pituitrin definitely is a factor here. It does not have the same action, of course, as ergot, and yet it is much like it. In the many years before giving up ergot we had not noticed this more common occurrence of the trouble.

I think there is a well justified cause, that it may be due to faulty expression of the placenta. A good many men use the so-called Crede expression of the placenta, but instead of expressing it as Crede recommended, they express it from above down and so I rather think that in a good many instances men not efficiently trained have not used a real Crede at all and instead of expressing it antero-posteriorly and making pressure from the anterior as well as from the fundus of the uterus, they have expressed it from above downward.

This does not explain the fact that we may have spontaneous inversion, not having been preceded by either ergot, pituitrin, or any other expression. There are instances, one of which I know, in

which the placenta was expelled and inversion took place spontaneously, for all of which there is no explanation in anything we know now. I think all who have seen cases of inversion are impressed with what the essayist has said concerning the marked degree of shock which accompanies it, out of proportion perhaps to the amount of hemorrhage which takes place, so we cannot say that the shock is the result of hemorrhage.

Dr. Haynes spoke of the question of reducing it in a way that is proper and common, and then of having packed this and removed it the next day. In the two or three acute cases I have seen, instead of removing the packing all at one time we packed the gauze well up into the fundus, completely packing the uterus, and then at perhaps twelve-hour intervals would withdraw certain portions of the gauze, not leaving the uterus entirely empty at any one time, until the last was removed.

DR. JOHN N. BELL, Detroit: I have had very little experience in this, having seen only two cases, one in the acute form. The other was a late condition, occurring two weeks after the baby was born. My acute case was the ordinary type and I had no difficulty at all in reducing it by the invagination method, the pointed finger invagination.

Regarding the etiology, I think there is nothing particularly mysterious about why this happens.

I have always felt and still believe that the condition is one where you have a thin uterine wall where the afterbirth is attached, and in the process of expelling the placenta perhaps a little undue force may have been used, or a little undue traction on the cord—anything that will start invagination, and perhaps a little carelessness in not watching the fundus for a sufficient time afterwards.

My theory of the uterine wall being unusually thin is substantiated in this late case in which I operated and in which the reduction could not be brought about in the usual method, and I was forced to operate by making an incision through the posterior wall, along and almost up to the fundus before I could invert the uterus and get it back. I noticed that the uterine wall was much thinner than I expected to find it, and I was much surprised. That substantiated my idea and shows that in these cases the uterine wall is unusually thin and produces the invagination.

DR. R. CRON, Ann Arbor: It has been my experience to have one case with acute inversion. This woman was delivered by a midwife and her story was that the midwife used traction on the cord with the true Crede, with immediate inversion following that procedure. The patient evidently went into shock, because of the fact that when she entered the hospital she was definitely burned because of the midwife having thrown hot water on her to revive her. She came in with complete inversion, with the placenta removed. At the time of entrance she had recovered from her shock. She was examined and we found that the uterus was completely inverted outside of the vagina. The pulse was slightly above 100 and in comparatively poor condition. Being in charge at the time, I went ahead and reduced the complete inversion by the treatment outlined by Dr. Haynes and the patient proceeded to go into very profound collapse, so much so that she was pulseless at the radial and temporal. She had not lost any blood—it was just a plain every day shock. About the time the transfusion outfit was ready and a donor was supplied, the only evidence of life could be obtained by listening to her heart with a stethoscope. She was immediately transfused by the citrate method and it was miraculous to see how she recovered. The uterus was then reduced and she recovered



from the whole affair and went home well within a short time.

The point I wish to bring out is that you can have a second shock when you attempt to reduce the uterus, even after primary inversion.

DR. H. WELLINGTON YATES, Detroit: May I ask the experience of anyone who has adopted this, whether it has any connection with others or not? This question of shock in my case was not evidenced by anything I attempted to do, but we inverted the patient to the extreme Trendelenberg so that her cerebral centers were receiving the whole supply of blood. We got her under deep narcotics with gas oxygen and there seemed to be no additional shock. Immediately upon the reinversion, or replacement, the patient assumed an entirely different attitude, that is to say the return to its proper position seemed the whole thing.

I wonder whether the extreme Trendelenberg, coupled with gas oxygen anaesthesia, would not be good practice even when these patients are in extreme shock. I am not convinced, but just ask this question.

DR. L. W. HAYNES, Detroit, (closing): The paper is hardly complete, in that this patient has had a miscarriage since it was written a few weeks ago. She was seven weeks pregnant and sharp pains started when she was working in her kitchen, followed by hemorrhage which lasted twelve hours and then she delivered this seven weeks pregnancy.

As to the use of pituitrin, I was interested in what Dr. Peterson said—that perhaps there is some connection between the more general use of pituitrin during the last few years and the more frequent reports of inversion. Personally, I have used pituitrin in every case delivered in the last year, since Dr. Cron read his paper at the meeting last year, using  $\frac{1}{2}$  CC immediately upon delivery of the baby, and I have been greatly pleased with the results. Outside of this one case which developed inversion the rest have been satisfactory and I have not had to do any vigorous Crede operations on any placenta since I have used this method. I have not had to inject the veins of the placenta with saline, as I had to do before, and I am sure it has cut down at least one-third of the time in delivery of the placenta. I have been much pleased in using it after delivering the baby.

Dr. Yates' suggestion that we are perhaps receiving more reports of this condition is probably true.

The idea has gradually developed that obstetrical patients should be delivered in the hospital more and more, and probably this would explain some change in the reported number of cases.

Also, Dr. Yates' suggestion in regard to removing the packing is certainly very good. I know I felt anxious all the time I was taking out the uterine packing at the end of twenty-four hours, and believe the suggestion of removing a little at a time is very good.

The paper was primarily written for the purpose of stimulating more work along this line and I am delighted to hear Dr. Bell tell of the case in which he was able to examine the uterus closely. In all the reports I received no information of work being done upon the uterus.

The thing I would like to impress upon the members of the section is that if they have a case that comes to autopsy there should be some histological work done on the fibers of the uterus to see if it holds true in all the cases that there is thinning of the tissue. The position in my case was left occiput anterior, with nothing unusual about it.

## RADIUM TREATMENT IN CANCER OF THE CERVIX\*

CLARK D. BROOKS, M. D.

WM. R. CLINTON, M. D.  
DETROIT, MICH.

From the records of many large hospitals and also from the experience of many surgeons, carcinoma of the uterus is apparently on the increase. From our own experience it seems that the degree of malignancy has increased and operability has decreased.

There are a number of factors which must be considered before undertaking an operation on cancer of the uterus.

1. A careful detailed history of the time of onset, character and duration of the discharge and bleeding.

2. The subjective symptom of pelvic pain with severe backache frequently means metastases along the iliac and lumbar glands or metastases in pelvic bones or spine. X-ray plates should be made as a routine before performing operation.

3. Thorough general examination a bimanual examination to determine:

- (a) Induration or ulcer or tumor.
- (b) Extent of involvement.
- (c) Fixation, a fixed carcinomatous uterus is inoperable.
- (d) A digital rectal examination is always advisable. If there is any involvement of the recto-vaginal septum, or fixation of the rectal mucosa, or if we can palpate sacral nodes the case is always inoperable.
- (e) Examination with specula to inspect type of growth or induration, appearance of surface, extent of ulceration of mucosa.

4. Complete blood and urine examinations should be made. Severe secondary anemia and local secondary infection or both are very common in advanced cases.

If, after careful examination we find that the case in hand is operable we advise treatment as follows: Pre-operative X-ray treatment to pelvic, iliac lumbar glands and hypochondriac regions, both anterior and posterior exposures and radium locally. Administration of alkalis. Two or three weeks later, laparotomy, examination of liver, lumbar and iliac glands and if negative for metastases proceed with pan-hysterectomy. The patient is given deep X-ray therapy, one month following operation, and the deep therapy is repeated in three months.

If we classify the case as a borderline one, we may use either radium and X-ray alone or

\*Read at 57th annual meeting M. S. M. S., Flint, 1922.



combine these as a pre-operative measure and then in four or five weeks perform pan-hysterectomy as above.

1. Our radium technique is as follows:

Preparation of the patient, the same as for operation. Gas anesthesia, we remove a specimen for pathological diagnosis and cauterize the site from which specimen was taken, introduce a 50 mgm. radium applicator into the uterine canal and imbed 2 to 5-10 mgm. needles in tumor mass and the time of exposure varies with the severity of disease from 12 to 24 hours. In the large cauliflower or crater ulceration we usually give a second exposure, 24 to 48 hours later of 50 to 100 mgm. radium for 8 to 24 hours. Therefore, these cases get from 1200 to 3600 mgm. hours of exposure to the radium.

2. We have noted that a few cases we have classed at first as inoperable, after Radium and the X-ray therapy, become operable, and we then proceed with hysterectomy, although some of the cases on whom we had planned to operate later showed such marked improvement that we decided against hysterectomy or any other operation.

In the definitely inoperable cases we proceed as above, and attempt to give these patients as large doses of Radium and X-ray as they will stand. We usually have them report for examination every six weeks to two months and we may again give them Radium although we believe it better to give the full Radium dose during the first week of treatment, followed by the Roentgen Therapy. Our reason for this is that after the fibrosis has taken place, intensive Radium treatment may cause stimulation of dormant cancer cells elsewhere, or break down the fibrous barrier or cause vesical or rectal fistulae.

If there is any question regarding the feasibility of performing a radical operation, or if metastases are present we do not attempt operation but treat these cases with Radium and X-ray.

Histological changes due to Radium.

Radium has apparently a selective action on the cancer cell and is about ten times more lethal to the cancer cell than to the normal cell. Sections taken from the site of radiation after Radium show destruction of cell nuclei and fibrosis. These changes vary with the dose, screen and tissue, also with the type of cancer. On account of these changes it may be safer to treat our patients with one heavy dose of Radium, primarily and use the X-ray for all subsequent treatments, on account of the possible danger of introducing Radium needles in tissue which is apparently normal, but in which are lying dormant cancer cells.

Statistics—Kelly and Burnham—213 cases.

Operable, 14; inoperable, 199.

Operation and radium, 10.

Radium alone, 203.

Fifty-seven clinically cured, divided as follows:

1—Six years.

3—Over 4 years.

4—Over 3 years.

29—Over 1 year.

15—Over 6 months.

109—Case markedly improved.

37—Not improved.

In 75 per cent of all cases with operation in advanced, there is recurrence and that 60 per cent of these recurrences take place within one year following operation.

H. Cheron and Rubens-Duval treated 158 cases of primary and recurrent inoperable uterine and vaginal cancer, in 155 cases there was improvement that was anatomically verified. In 93 cases the improvement was marked. 46 cases there was probably a definite cure, in 2 cases no appreciable good effect.

CASE REPORTS FOR FOUR TYPICAL CASES

Case No. 1.—Mrs. Y., age 40. April 8, 1920.

Complaint—Blood streaked leucorrhea for the past six months. Also menorrhagia for the past two months.

Family History—Father died at 59, carcinoma of the rectum. Otherwise negative.

Past and Personal History—Usual diseases of childhood. Otherwise always in good health. Married 14 years, never pregnant.

April 9th, vaginal examination showed that the posterior lip of the cervix had been ulcerated, and with the typical appearance of a cauliflower growth. Uterus fixed, and vaginal vault infiltrated. Specimen removed for pathological examination. Seventy-five MMS Radium screened with I MM brass, 2 MM rubber inserted into uterine canal, remained twenty-four hours. 1,800 MM hours.

Pathological Diagnosis—Advanced squamous celled carcinoma of cervix.

July 27, 1920—Patient has had three deep X-Ray treatments, three weeks apart, also X-Ray examination of the pelvis and spine, which was negative for metastases. Patient has gained 10 pounds in weight. Discharge practically stopped, no bleeding. On vaginal examination the cervix was smooth and glazed, and there was no evidence of malignancy. Fifty mgms. Radium, screened as before, inserted into uterine canal, and left in situ for 24 hours. 1,200 mgm. hours.

October 20, 1920.—Patient has gained 10 pounds more, no discharge, no bleeding, general condition very good. Vaginal examination shows cervix smooth, no evidence of previous trouble.

February 15, 1921—Condition good. No symptoms, no evidence of any pathology by vaginal examination.

May 10, 1921—Patient feels fine, local and general condition very good.

September 10, 1921 and January 5, 1922—Patient in good condition, apparently cured. Advised to return in four months for further examination.

May 20, 1922—Patient examined, apparently well and is doing all her own house work.

Case No. 2.—Mrs. D., age 60.

Complaint—Loss of weight, backache, leucorrhea, and irregular vaginal bleeding for the past two months, with constant bleeding for the past two weeks.

Past and Personal History—Eight children living and well. No family history of malignancy. Patient has always been in good health, hard working farmer's wife.

August 11, 1921—Vaginal examination under gas anesthesia. Ulcerating growth on posterior lip of cervix, pathological examination advanced squamous cancer of cervix with induration of posterior vaginal wall, specimen removed, 50 mgms. Radium inserted into uterine canal, with usual screening, remained in place 24 hours. 1200 mgm. hours.

August 26, 1921—5-10 mgm. needles inserted into posterior lip of cervix, remained 8 hours. 400 mgm. hours. Condition much improved.

October 10, 1921—5-10 mgm. needles inserted into posterior lip of cervix for 12 hours. 600 mgm. hours. No evidence of any ulceration, induration of vault, much less. Patient's symptoms gone, general condition very good.

December 10, 1921—Patient examined carefully, cervix smooth, no area of induration or ulceration.

February 15, 1922—No clinical evidence of previous trouble. General condition very good. Advised to return in four months for further examination.

Pathological Diagnosis—Squamous called carcinoma of cervix.

Case No. 3.—Mrs. R., age 60.

Complaint—Foul discharge and bleeding 8 months' duration. Examination September 29, 1921 revealed that the cervix was practically absent. Induration with fixation of anterior, posterior, and lateral vaginal walls. Small amount of cervical tissue present, which was very friable. Typical of carcinoma. Specimen removed for examination. 50 mgms. Radium inserted into uterine canal. 3-10 mgm. needles embedded in remnant of cervix 24 hour exposure. 1920 mgm. hours. Path. Diag.: Sq. celled carcinoma of cervix.

November 11, 1921—Patient reported for examination. General health much improved. Gained 20 pounds in weight. Local examination, the remnant of cervix smooth, small dimple in the region of cervical os. Induration of vaginal vault much less.

November 16, 1921—1-10 mgm. Radium needle, inserted into cervical os, 2 embedded in remnant of cervix. 8 hours. 240 mgm. hours.

February 5, 1922—General and local condition much improved, no further radiation advised.

April 20, 1922. Upon careful examination we are unable to detect any signs of former carcinoma, patient advised to return in four months for examination.

Case No. 4.—Mrs. N., age 34.

Complaint—Watery irritating discharge, with metorrhagia and menorrhagia for the past month. Family History—Negative for malignancy.

Past and Personal History—Patient has always been in good health, married 10 years, no children.

General examination—Slender woman, weighing about 120 pounds. Vaginal examination reveals a soft ulcerating, bleeding tumor, extending from the external os, provisional diagnosis of carcinoma, patient sent to hospital for pathological diagnosis, and radium treatment.

July 12, 1920—D. and C. done under gas anesthesia, specimen sent to laboratory, pathological report, advanced squamous celled carcinoma. 50 mgm. Radium inserted into uterine canal, usual screening. 24 hour exposure. 1200 mgm. hours.

September 14, 1920—General condition much improved, practically no discharge, no bleeding. Vaginal examination shows, cervix smooth with a slight ulcerated area, along the cervical canal. 50 mgm. Radium, inserted into cervical canal for 24 hours, patient advised to have deep X-Ray treat-

ments over iliac and sacral glands every three weeks.

November 2, 1920—Patient much improved, no bleeding or discharge. Ulceration healed, surface smooth. Advised to return in two months.

January 13, 1921—Patient has no symptoms, and is apparently cured.

Examinations May 6, June 15, September 20, 1921, all reveal the patient in very good condition.

December 2, 1921—Patient in bed complaining of pain and swelling in left leg. Tenderness on pressure, elevation of leg, and prescription of salicilate was given patient.

December 9, 1921—Patient suffering intensely with pain and cramps in left leg, extending up to the hip. Leg very much swollen, slightly flexed, and tenderness on pressure over the iliac vessels. Vaginal examination reveals no mass, but tenderness on pressure in left vault.

December 11, 1921—X-Ray of spine and pelvis revealed no bone metastases.

December 22, 1921—Left leg somewhat improved. Still tender.

January 10, 1922—Patient still unable to walk, swelling and tenderness. General health failing.

February 20, 1922—Patient has returned to her home in Buffalo, New York. Husband states that patient is in very bad condition, unable to straighten her leg, losing weight and strength, and suffers intensely when not under opiates.

Comment—We believe that this patient developed a recurrence of the left iliac glands and although we have not been notified of her death, we presume that this has occurred.

Our series of 46 cases treated with Radiotherapy. Since April, 1919.

|   |              |
|---|--------------|
| Multipara, 39.  | Non para, 7. |
| Number of cases under 35.....   | 4            |
| Number of cases 35 to 45.....   | 10           |
| Number of cases 45 to 55.....   | 21           |
| Number of cases over 55.....  | 11           |
| Average duration of symptoms when first consulted—months .....                        | 9            |
| Number of patients who received one intensive Radium treatment only.....              | 8            |
| Number of patients who received two intensive Radium treatments .....                 | 12           |
| Number of patients who received three or more Radium treatments .....                 | 23           |
| Number of patients clinically well for over 3 years 1                                 |              |
| Number of patients clinically well for over 2 years 3                                 |              |
| Number of patients clinically well for over 1 year..                                  | 13           |
| Number of patients clinically well for over 6 months and still under observation..... | 12           |
| Number of patients known to have died.....  | 12           |
| Number of patients result unknown, presumed to be dead.....                           | 5            |

#### CONCLUSION

1. We wish to again emphasize pre-operative X-ray treatment.

2. The combination of Radium and X-ray therapy in cases of uterine cancer has a definite place in the treatment of this dreaded disease, first, the clinical cure of some; second, in the alleviation of those two very distressing symptoms, namely rank discharge and bleeding and lessening the morbidity.

3. While we never consider a cancer patient cured until death occurs from some cause other than cancer, the fact that Radium has caused apparent cures in inoperable cases and for more than two years in many cases, with no

signs of disease leads us to believe that if Radium is properly used we have a very important agent in the treatment of these cases.

### CARCINOMA OF THE BREAST, ITS COMBINED TREATMENT, SURGERY, X-RAY AND RADIUM\*

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DETROIT, MICH.

With the passing of empiricism in medicine and surgery and the ever increasing progress in the perfection of diagnostic and curative measures, the co-relation, in the treatment of various diseases by the combined methods is the rule, rather than the exception; and must be recognized as safe, sane, more or less obligatory in order to meet the present demands of an enlightened public and a progressively exacting profession.

This is exemplified very auspiciously in the combined surgical, X-ray and Radium treatments of new growths, especially those involving the breast. If we accept as a fact, the theory of irritation, diminished local resistance, and loss of control, though the accurate cause is still unascertained, uncertain, or unproved, new growths of all types must be potentially regarded unassuming benignity, unequivocally demand, with rare exception, thorough early eradication by excision with knife, electrolytic dissociation, X-ray and Radium. 85 per cent of all tumors in the breast if untreated have been demonstrated to be malignant.

The corroborated and check mass-weight of reliable clinical evidence is notoriously in favor of non-temporizing treatment and simply demands nipping in the bud, these various new growths which show at least 90 per cent cures with 100 per cent operative recovery, as against about 80 per cent cures in local early malignancies; and less than 25 per cent cures with secondary axillary glandular involvement, with practically "no eight year cures with bone, brain or lung and other metastases."

Cancer age—graphically depicted we must include the extremes—begins at birth and ends at death, reaching its high peak of incidence between the age of thirty and fifty. It demands extra careful scrutiny by the clinician, constantly and much more so about the very active periods of life. We must be impressed by the repeated and confronted histories in regard to the grave errors and lack of personal knowledge of the average individual and to a greater or less extent by the profession. Unfortunately the ignorance of the laity; I must say also, of many of the profession, who

consider a breast tumor as of little moment, unless they find axillary glandular involvement which carries with it these decreasing cures and the frightful mortality, which stands as monumental evidence that both the public and profession are derelict in their duty to mankind and necessitate redoubling our efforts and suggests an everlasting reiteration under pain of what may seem useless repetition—the important time proven fact—"that cancer begins as a local disease and can be absolutely eradicated if removed early and that the incidence of *curability* becomes relatively less and less as the growth progresses and spreads."

The burden of this terrible national calamity should be squarely placed on the shoulders of the public and legislatures by the insistence of the profession in demanding thoroughly trained men, who expect to practice medicine in whatever form; until this fundamental is accomplished, the great responsibility rests on your shoulders for the intelligent and careful examination of your patients and the exercising of perserverance, judgment and conviction in the relative cure and treatment thereof. So long as a new growth remains in the host it must be considered as potentially eruptive and may unceremoniously burst forth and disseminate irreparable damage widely distant from the original source and pass unobstructed through the usual first line filters and will be the nidus for the ultimate destruction of the individual while locally presenting apparent perfect innocence and quiescence. The only clinical evidence which may lead one to suspect an underlying dangerous condition being the progressive loss of strength, weight, pallor-increasing secondary anaemia from no other appreciable cause; thereby, making one gravely suspicious of such a small innocent appearing tumor spreading so unobtrusively with so little apprehension. If you will visualize for a minute what takes place in the average breast at its beginning—granting that the body as a mixed cellular group may be considered under thorough co-ordination having fairly accurate control over reproduct of life and death of individual.

First, a few living cells become irritated and thereby begin to increase in number—proliferate if this is orderly under normal control nature forms a simple adeno-fibroma depending on the character and type of cell involved. There is always a definite arrangement of like cells following the natural laws of growth, irritation, waste and repair; now if these cells assume revolutionary characteristics and the normal resistance and control is lacking or deficient or absent, they begin to grow without restraint, wildly among themselves and finally

\*Read at 57th annual meeting M. S. M. S., Flint, 1922.



bursting their normal envelope and infiltrate and crowd with no restrictions through neighboring unlike cells, usurping the normal nourishment of these surrounding cells. Many or both succumb to the wild orgy of growth. Now nature in many instances attempts to protect herself and so she throws out stimuli to the protective group, e. g.; the connective tissue cell which proliferates and attempts to keep within bounds and herd the revolutionary cell by throwing up barriers of scar tissue between them and about them and the success of these govern the character of the growth, whether soft or hard, medullary or scirrhous carcinoma or sarcoma. Many of these parasitic cells, grow so rapidly that they crowd and force themselves through the old and newly formed blood vessels clogging both the vascular and lymphatic circulations. Myriads are arrested at the first line of filter—"the axillary lymph glands," but a great many pass on through and disseminate widely throughout the body especially in bone, brain, lung and other viscera and set up new growths and thereby multiply at the expense and to the dire disadvantage of the host; so it is this dissemination going on insiduously, continuously, irregularly, which finally begins to break down nature's resistance, as without doubt a great many normal and parasitic cells are destroyed in the battle—for the patient begins to show loss of weight, mild, increasing secondary anaemia—the only too constant picture.

I hope I have vividly, though homely brought to your cognizance only a few of the grave potentialities far beyond the dreams of the average practitioner who symbolizes the small breast tumor with no palpable axillary glands as perfectly innocent, which at that very moment may be broad-casting highly malignant cells far beyond the curative reach of medical science as exemplified by skillful surgery, Radium and X-ray. It must be ever repeated and repeated that the size, location and consistency, shape of the new growth bears no relation to its malignant proclivities—though it has often been observed that the nearer the approach to the nipple the greater the rate of glandular tissue increase and markedly higher in the scale of malignancy they rise; so let this be an important governing factor in the exercising of your firm, good judgment and explication of your forceful, yet condescending gentle conviction, impressing upon the sensitive patient the absolute necessity of early thorough removal by suitable measures whether it be by Scalpel, X-ray, Radium or preferably combination of the three. Do not misunderstand me, I do not wish to convey the idea that every case should be rushed to the surgeon,

far from it—as there are many functional derangements of the breast which simulate new growths and must be carefully observed, but be sure that they are observed and don't allow judgment to be blinded by too much conservatism or clouded and distorted by soporific indolence. If you are consulted late and today it is the rule, that fully 60 per cent of the patients have glandular involvement when presenting themselves to the surgeon for first examination which carries with it eight year cures of only 1 to 20 per cent.

The picture which you should take home in your mind's eye so that the diagnosis can be fairly accurately made, in the preponderance of cases is "that of a stony, hard irregular growth when deeply situated or a hard growth with multiple areas of skin dimpling if superficial."

#### TREATMENT.

Surgically a thorough painstaking radical block-dissection of axillary and sub-clavicular lymph glands and fat carrying areas together with both pectorals and breast. The per cent local recurrence will depend on the dexterity ability and carefulness of the surgeon. The measures should be executed by consistent progressive step, conclusion reaching a perfect climax in clean removal of all breast, muscles and infected glands and leave the patient with a minimum of shock.

Sistrunk of Mayo Clinic reporting results from 218 operations says that of 86 patients operated before glands are involved, 64 per cent are alive from five to eight years after operation with known recurrence in only six. Of 132 patients in whom glands not involved at operation, 19 per cent are alive from five to eight years after operation and only three known to have recurrences. Of 218 collectively grouped without reference to glandular involvement 36.7 per cent are alive from five to eight years after operation, with recurrences in nine. 60.5 per cent showed glandular involvement and at the end of five years 61 per cent were dead, 39.5 per cent were not involved and 39 per cent were alive. 86 patients who showed no glandular involvement, 85 per cent were alive at five years; so that 75 to 80 per cent should receive five to eight year cures if operated early. Only 52 per cent were cured in carcinoma of upper inner quadrant; and only 25 per cent cured in carcinoma of lower inner quadrant due respectively to the lymphatic distribution of the lung and stomach, these chains cannot be surgically removed as they perforate the wall together with the vessels and drain into the gastro hepatic mesentery and mediastinum. Carcinoma occurring in pregnant and lactating women practically always fatal. (80

per cent with cancer of the breast should obtain five to eight year cures).

A local recurrence should not be looked upon with hopelessness, but should be promptly and widely excised—usually meaning insufficient removal of underlying fascia or knife implantation through careless excision.

During the past five years it has been my practice when possible to thoroughly X-ray cases before operation and after careful block excision to begin intensive X-ray treatments 9-inch spark gap over several ports, weekly, using 5 to 10 ma. cur. and 8 cm. of distance—During the past two years supplanting this with direct implantation of radium, element 50 mg. into wound at operation and thoroughly

radiating this about the large wound, especially in the neighborhood from which the growth was removed, gives at least 1200 mg. hours. since combining these several methods and paying especial attention to careful regulation of good nutritious diet in order to keep resistance of patient at the highest by addition of mild tonics and iron. I have without doubt given my patients a much greater benefit and to date have been able to control recurrences and to prevent same in operative wound. I can confidentially thoroughly recommend the consistent Triad, Surgery, X-ray and Radium as the most efficient combination we possess today, if persistently and carefully used that over 80 per cent should obtain eight year cures.

#### OUR BREAST TUMORS—CLASSIFIED ACCORDING TO MICROSCOPICAL REPORT

|                       |                                 |   |                             |            |                   |  |
|-----------------------|---------------------------------|---|-----------------------------|------------|-------------------|--|
| TOTAL<br>CASES<br>55. | Females<br>52<br><br>Males<br>3 | Left Breast<br>27<br><br>Rt. Breast<br>25<br><br>Bilateral<br>3 | Malignant<br>36             | Early<br>3 | Carcinoma,<br>35. | Medullary Squamous..... 8  |
|                       |                                 |   |                             | Late<br>33 |                   | Scirrhus ..... 14  |
|                       |                                 |   | Benign<br>19                |            | Sarcoma<br>1.     | Adenocarcinoma ..... 9   |
|                       |                                 |   |                             |            |                   | Basal Cell ..... 1   |
|                       |                                 |   |                             |            |                   | Carcinoma Simplex ..... 3  |
|                       |                                 |   | Malignant and<br>Benign, 1  |            |                   | Small Round Cell ..... 1   |
|                       |                                 |   |                             |            |                   |  |
|                       |                                 |   | Potentially Malignant<br>3. |            |                   | Advanced Tuberculosis ..... 2  |
|                       |                                 |   |                             |            |                   | Chronic Polycystic Mastitis ..... 5                                      |
|                       |                                 |   |                             |            |                   | Chronic Purulent Mastitis ..... 1  |
|                       |                                 |   |                             |            |                   | Adeno-Fibroma ..... 9  |
|                       |                                 |   |                             |            |                   | Myxoma ..... 1   |
|                       |                                 |   |                             |            |                   | Accessory Breast ..... 1   |
|                       |                                 |   |                             |            |                   | Early Carcinoma Coincident or<br>Arising on a Tubercular Mastitis..... 1 |
|                       |                                 |   |                             |            |                   | Chronic Mastitis ..... 1   |
|                       |                                 |   |                             |            |                   | Fibrosis and Cystic<br>Degeneration ..... 1                              |
|                       |                                 |   |                             |            |                   | Adenoma and Interstitial<br>Mastitis ..... 1                             |

1737 David Whitney Bldg.

#### THE 1922 CANCER WEEK CAMPAIGN IN DETROIT

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We think the methods and accomplishments of the recent medical publicity in connection with "Cancer Week" to be important enough to again warrant being placed on record.

##### METHODS.

*Newspapers.* A total of 60 items in the daily press were secured. Considerable newspaper publicity was secured in advance of cancer week—an article each week for 7 to 8 weeks. There was a dual advantage in this: (a) entry toward any co-operation was easy, for any organization, church, union, club, etc., had already heard that there was to be a cancer week; and (b) the idea and purposes did not need to be introduced to the public during the week. As the ball of publicity gained impetus,

cancer was considered more and more as news, and during the week proper, each newspaper published an informative article on cancer of a different body organ each day. Previously, "news" meant announcements, names, that a meeting was going to be held, or something was going to happen. A brief daily didactic lecture on cancer of the stomach, breast, mouth, etc., would not have been incorporated in the news columns of a large city without extensive preliminary publicity. Such informative articles were not accepted, or were sidetracked because of the rush of other news, at first.

These columns were headed: "*The Nature of Cancer.*" Daily articles will appear in this column throughout Cancer Week, written under the auspices of the Wayne County Medical Society." After the article this paragraph appeared:

"Should anyone have or suspect they have the beginning of such a growth, they are urged to consult a reliable physician at once for a

thorough examination and advice as to proper treatment if such examination shows that a cancerous condition is present. For those unable to go to a physician, special free cancer clinics are held daily in all the hospitals of the city throughout Cancer Week." (The newspaper publicity was in charge of Dr. E. D. Spalding.) This is quoted in full for the interest it should have for students of better relations between the medical profession and the public. Considerable publicity was also obtained during Dr. Bloodgood's visit—the news value being chiefly that an "out of town distinguished surgeon comes to aid cancer drive."

**Motion Picture Theatres.** Instead of slides, news trailers were used. These are 75 foot films attached to all the news weeklies released in Michigan during Cancer Week and were obtained through special arrangement with the Free Press News Weekly and the Theatre Owners of Michigan. The brief talk in each theatre by a physician was given, but it was much easier to get the theatres' co-operation than it was to secure 100 speakers.

Dr. Bloodgood's visit and scenes at the hospital cancer clinics were current news of enough value to be snapped and incorporated in the Free Press Motion Picture News Weeklies released November 5 and November 19.

**Literature.** This was distributed through the schools by the department of Health, Nurses—each child above the fifth grade being given a pamphlet to take home to his parents.

**Industrial Publications.** A new type of publicity started this year was the matter of interesting large corporations to include an article in their plant magazines. It was very easy, for compensation laws have educated a certain health responsibility among industries. A circular letter, enclosing two brief cancer articles and a clipping from a daily paper describing the campaign was sent. Several plants asked for posters and 6000 to 8000 "Vital Facts" circulars were distributed in pay envelopes.

**Churches.** Each pastor and priest was sent a circular letter asking that he make an announcement; how general these announcements were, it was impossible to determine.

**Lectures.** These were not undertaken as extensively as possible, chiefly because other activities absorbed so much time.

**Finances.** The campaign cost \$1000. \$500 was spent for motion picture films, \$250 for literature, the balance for incidentals. Half of the fund was obtained from the Chase cancer fund at Harper Hospital, half through the generosity of Mr. John Anderson.

TABLE I.

## SUMMARY REPORT.

|   |        |
|---|--------|
| A. Number of written articles and editorials. (Medical Journals, Industrial Publications, Public Health Bulletins, Etc.)..... | 78     |
| B. Number of Motion Picture Theatres which co-operated.....   | 150    |
| C. Number of lectures delivered.....  | 169    |
| 1. Total number of persons reached by lectures.....   | 42,450 |
| 2. Number of audiences before which Dr. Billings' letter was read.....  | 300    |
| D. Number of cancer clinics held.....   | 55     |

## DETAILS OF ABOVE REPORT.

|  |             |            |
|--|-------------|------------|
| A. <b>Written Articles.</b>  |             |            |
| Number of news articles.....   | 30          | 59         |
| Numbers of editorials in newspapers.....   | 10          | 103        |
| Number of articles in Medical Journals.....  | 14          |            |
| Number of editorials in Medical Journals.....  | 1           | 6          |
| Number of articles in Industrial Publications.....   | 1           | 5          |
| B. <b>Motion Picture Theatre Co-operation.</b>   |             |            |
| Number of theatres in which 75 ft. news trailers (75 copies) were.....                       | 150         |            |
| Shown throughout State.....  | 500         |            |
| Number of theatres in which short talks were given.....                                      | 150         |            |
| Number of theatres in which literature was distributed.....                                  | 0           |            |
| Number of theatres in which the film, "Reward of Courage" was shown.....                     | 5           |            |
| Approximate number of persons reached through picture theatres.....                          | 100,000     |            |
| Throughout State.....  | 500,000     |            |
| C. <b>Scientific Meetings and Public Lectures.</b>   |             |            |
|  | Number      | Attendance |
| Professional and scientific meetings (Medical Societies).....                                | 4           | 700        |
| Public meetings under auspices of Medical Societies.....                                     | 0           | ...        |
| Meetings for medical students.....   | 1           | 50         |
| Meetings for nursing organizations.....  | 1           | 100        |
| Meetings for nurses in training.....   | 0           | ...        |
| Meetings for classes in schools for Health Officers.....                                     | 0           | ...        |
| Meetings for Church Clubs (men and women).....   | 1           | 100        |
| Meetings for other undergraduate college students.....                                       | 0           | ...        |
| Meetings for Federation of Women's Clubs.....  | 1           | 150        |
| Meetings for Fraternal Orders and Lodges.....  | 0           | ...        |
| Meetings for Rotary, Kiwanis and other Civic Clubs.....                                      | 0           | ...        |
| Meetings for Chambers of Commerce and Boards of Trade.....                                   | 0           | ...        |
| Meetings for factory talks.....  | 9           | 800        |
| Others: Miscellaneous.....   | 2           | 500        |
| No. of Announcements   | No. Approx. | Attendance |
| 1. In churches.....  | 600         | 150,000    |
| 2. In lodges.....  | 0           | ...        |
| 3. Others.....   | 0           | ...        |
| Number of radio talks given.....   | 2           | ...        |
| Literature distributed:  |             |            |
| What, how much, if anything, was distributed locally?  |             |            |
| "Vital Facts" free quota from New York City.....   | 18,000      |            |
| "Vital Facts" extra from New York City.....  | 100,000     |            |
| "What Everyone Should Know" from New York City.....  | 5,000       |            |
| Postals—from Chicago.....  | 200         |            |
| Postals—from New York City.....  | 150         |            |
| D. Number of Free Diagnosis Clinics held.....  | 48          |            |
| Number of patients.....  | 321         |            |
| E. Additional information, remarks and suggestions:  |             |            |
| Advance newspaper publicity made entree to any organization.                                 |             |            |
| Mayor's Proclamation was decided aid to publicity.   |             |            |
| Articles in Industrial Publications created interest.  |             |            |
| Movie "News Trailers" instead of slides are automatically carried through State.             |             |            |
| Movie News Weekly (Free Press) Items of:   |             |            |
| A. Dr. Bloodgood's visit.  |             |            |
| B. Scenes at Free Diagnostic Clinics.  |             |            |
| Permanent weekly Cancer Clinics have been established in Harper Hospital and Grace Hospital. |             |            |

## THE RESULTS.

Having heard of a movement, and receiving and acting upon the proper information; are



different quantities. A person may have remembered dimly that there was "some sort of cancer movement," but unless the descriptive information of the early signs has been lastingly impressed, the effect desired has not been obtained. We are certain that the entire community now knows of the movement, but of course we are just as certain that there is much to be done toward transferring the small amount definite information necessary to the community at large. Many physicians saw 2-3-6 patients in response to the publicity. Several saw 2-3 cancers.

Actually only a small percentage of cases are early during one week and deducting the larger number who went to their own doctor, the data from the free clinics represent only a small part of the total achievements. This data, however, shows definite results. (Table 11). Eight Detroit hospitals held free diagnosis clinics. 321 patients applied for examination. Roughly 10 per cent had cancer. The table includes 3 cancers of the mouth, seven of the uterus, 10 skin epitheliomata, 11 breast cancers. Precancerous conditions (leukoplakia, benign breast tumors, pigmented moles, etc.) constituted another 12 per cent—a total of 22 per cent either cancerous or precancerous.

As last year, the proportion of persons reporting for lesions of the skin (22 per cent of the total 321) was far in excess of the normal incidence of skin cancer (3 per cent). Those complaining of gastro-intestinal symptoms (27 per cent) were fewer than the normal incidence of cancer of the alimentary canal. No cancers of the alimentary canal were found in the clinics. As noted elsewhere,\* getting gastro-intestinal cancers early enough for adequate treatment which is curative is still a serious problem for the medical profession as well as popular education.

The results seemed hopeful enough to warrant the establishment of permanent cancer clinics. These are already in operation, one at Harper and one at Grace hospitals. They have been organized in connection with the outpatient departments of the two institutions, with arrangements to use the facilities and consulting staffs of the hospitals as needed. Their function will be confined to early diagnostic and clinical study of cancer and some further publicity programs, the end in view being to make "Cancer Week" efforts somewhat continuous, though of course, not as intensive. We are still sure that in actual accomplishment, there have only been two "flashes in the pan."

\*Saltzstein H. C. The Early Diagnosis of Cancer. J. A. M. A. (Forthcoming).

TABLE II.

|                              | Harper | Ford | Grace | St. Mary's | Providence | Receiving | Highland Pk. | Deaconess | Total |
|------------------------------|--------|------|-------|------------|------------|-----------|--------------|-----------|-------|
| Total No. of Patients....    | 98     | 78   | 27    | 38         | 32         | 28        | 12*          | 13        | 326   |
| MOUTH 6.2%                   |        |      |       |            |            |           |              |           |       |
| Cancer .....                 | 2      | 1    | 1     | 2          | 2          | 2         | 1            | 1         | 3     |
| Abrasion oral plate.....     | 2      | 1    | 1     | 2          | 2          | 2         | 1            | 1         | 6     |
| Precancerous lesion .....    | 1      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 3     |
| Leukoplakia .....            | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Osteomyelitis .....          | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Oral Inflam. ....            | 1      | 1    | 1     | 2          | 2          | 1         | 1            | 1         | 6     |
| Pharyngitis .....            | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Benign Tumor .....           | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| STOMACH 27%                  |        |      |       |            |            |           |              |           |       |
| Cancer .....                 | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Gall bladder .....           | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 7     |
| Cancer liver .....           | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Dyspepsia .....              | 7      | 1    | 2     | 5          | 4          | 6         | 2            | 2         | 27    |
| Ulcer .....                  | 5      | 3    | 6     | 2          | 2          | 4         | 2            | 1         | 25    |
| Abdominal pain .....         | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Functional disorder .....    | 2      | 3    | 1     | 2          | 1          | 4         | 2            | 1         | 15    |
| Appendicitis .....           | 3      | 10   | 1     | 2          | 2          | 2         | 2            | 2         | 17    |
| COLON 1.2%                   |        |      |       |            |            |           |              |           |       |
| Cancer .....                 | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Colitis Mucous .....         | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Hemorrhoids .....            | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| RECTUM                       |        |      |       |            |            |           |              |           |       |
| Polyp .....                  | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Fistula ano .....            | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| BREAST 13%                   |        |      |       |            |            |           |              |           |       |
| Cancer .....                 | 3      | 4    | 1     | 2          | 2          | 2         | 1            | 1         | 11    |
| Benign tumors .....          | 2      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 8     |
| Chr. Cystic Mastitis .....   | 5      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 11    |
| Traumatic Mastitis .....     | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Eczema .....                 | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Adenopathy .....             | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Negative .....               | 5      | 1    | 2     | 2          | 1          | 1         | 1            | 1         | 12    |
| PELVIC 8.7%                  |        |      |       |            |            |           |              |           |       |
| Carcinoma Uterus .....       | 3      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 6     |
| Menorrhagia .....            | 3      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 3     |
| Fibroid .....                | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 5     |
| Pelvic Inflam. ....          | 2      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 4     |
| Senile Vaginitis .....       | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Cervicitis, Prolapse .....   | 2      | 2    | 1     | 2          | 2          | 2         | 1            | 1         | 8     |
| SKIN WW 22%                  |        |      |       |            |            |           |              |           |       |
| Epithelioma .....            | 3      | 1    | 1     | 2          | 2          | 2         | 2            | 2         | 10    |
| Papule, wart .....           | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Keratosis .....              | 2      | 4    | 1     | 1          | 1          | 1         | 1            | 1         | 7     |
| Leukoplakia .....            | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Benign tumor .....           | 7      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 10    |
| Sebaceous Cyst. ....         | 2      | 2    | 2     | 1          | 1          | 2         | 1            | 1         | 9     |
| Lues .....                   | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 0     |
| Dermatitis, Eczema, In-      | 5      | 2    | 2     | 2          | 3          | 1         | 2            | 3         | 20    |
| flam., Psoriasis, Ulcer, etc | 2      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 5     |
| Erosion, Scar, Keloid....    | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Tumor Orbit .....            | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Negative .....               | 7      | 1    | 1     | 2          | 1          | 1         | 1            | 1         | 10    |
| MISCELLANEOUS                |        |      |       |            |            |           |              |           |       |
| Adenitis .....               | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 4     |
| Thyroid .....                | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Cardiac .....                | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Syphilis .....               | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Tuberculosis, Pulmonary      | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Obesity .....                | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Strain .....                 | 1      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 4     |
| Arthritis .....              | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Nasal spur, deflected sep-   | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| tum, etc. ....               | 2      | 2    | 1     | 1          | 1          | 1         | 1            | 1         | 2     |
| Hernia .....                 | 2      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 5     |
| Abdom. Adhesions .....       | 3      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 5     |
| Hyper. Prostate .....        | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Menopause .....              | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 5     |
| Headache .....               | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Cystitis .....               | 1      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 1     |
| Recur. Metastatic Cancer     | 2      | 1    | 1     | 1          | 1          | 1         | 1            | 1         | 5     |
| No data .....                | 11     | 6    | 1     | 1          | 1          | 1         | 1            | 1         | 21    |

### PRESENT DAY CONCEPTIONS OF THE METABOLISM AND TREATMENT OF DIABETES\*

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The history of diabetes and the cycles through which its treatment has passed is of

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great interest and a brief resume of this aspect of the disease seems appropriate before discussing our present ideas on the subject.

The disease was first recognized by Celsus (30 B. C.-50 A. D.). It is again described by Aretaeus (30-90 A.D.) who is given the credit of first naming it diabetes, from the Greek, meaning "A Siphon," or "to run through." Thomas Willis (1679), a Professor at the University of Oxford, was the first European to mention the sweet taste of the urine "as if imbued with honey and sugar," but it remained for Matthew Dobson (1775) nearly 100 years later, to show that this taste was due to sugar. He evaporated diabetic urine and obtained a white cake which tasted like sugar and when allowed to stand, fermented and lost its taste. He also mentioned that the blood was sweet to the taste.

John Rollo (1797), a surgeon of the English army, is given the credit of first treating diabetes by means of diet. He restricted carbohydrates and gave protein and fat. Shortly after this the fat treatment was pushed to the limit by Rollo's contemporaries who gave rancid fat, bread dipped in oil, melted fat of beef and hot oil, as well as drugs which produced nausea and anorexia. Allen states that these were the first instances of the fasting treatment and surely they were the first incidences of a high fat diet.

About 1850 our knowledge of Diabetes again advanced with the advance in physiological chemistry. The Trommer copper reduction test for sugar was announced in 1841 and the Fehling test in 1850. Claude Bernard about this time discovered glycogen and the glycogenic function of the liver and was the first to do quantitative blood sugar estimation.

The outstanding clinician of this period was Bouchardot, of Paris, who revived the Rollo treatment and made many advances in the knowledge of diabetes. He insisted that each patient be individualized. He substituted fat and alcohol for the carbohydrate in the diet and forbade milk because of its sugar content. He urged that the patients eat as little as possible and inaugurated occasional fast days to control glycosuria. He noted the disappearance of glycosuria in many diabetics during the privations of the siege of Paris. He recommended the giving of green vegetables and devised the method of boiling the vegetables, and throwing away the water, to reduce the quantity of starch. He invented gluten bread and advocated daily testing of the urine. He also showed that carbohydrate tolerance is raised by out door exercise.

From Bouchardot to the present time, many plans of treatment have held the limelight.

Many scientific chemical, physiological and clinical facts have been established, thereby placing the diatetic treatment of diabetes on a more scientific and rational basis.

Acidosis was often mentioned after 1850, but Kussmaul in 1874 gave the first detailed description of it.

Among the men who contributed to our knowledge of diabetes should be mentioned Cantani, a clinician of Rome (1875), who set a standard for strict diet. He gave chiefly animal food and fat and used occasional fast days.

Kulz, whose publications cover the period from 1874 to 1899, did much to establish on a scientific basis the teachings of Bouchardot. He was one of the first to calculate diets according to caloric requirements. He did not fast patients, but gradually withdrew carbohydrates to avoid acidosis. He discovered oxybutyric acid in diabetic urines simultaneously with Minkowski.

Naunyn, whose publication from 1886 to 1908 developed the subject of acidosis for which he gave alkalies, allowed a bare maintenance diet, considered that fat was the chief food of the diabetic and used it to complete the full number of calories.

Lenne (1898 to 1907) advocated low protein, low carbohydrate and fat to the limit of the appetite.

Van Noorden who occupied a position of prominence during the early years of the present century, followed the previous methods of treatment of Bouchardot and of Kulz. He used fast days which he called metabolic Sundays and gave fat to the limit of the patient's appetite. He introduced the oatmeal cure.

Guelpa, of Paris, published numerous articles from 1909 to 1913 and was the first to advocate a radical initial fast, fasting the patient 3 to 5 days 'till sugar free and at the same time purging them. He considered loss of weight an advantage. However, after the fast, he gave considerable carbohydrate, especially milk and when sugar returned, repeated the fast.

More recently in this country Allen, Joslin and others have advocated fasting, while Newburg and Marsh, Woodyatt and Wilder have favored a diet with low carbohydrate and protein and high fat.

During the past 6 to 8 years, renewed interest has been taken in this country in metabolic research and numerous points have been brought out which place the dietetic treatment of diabetes on a more rational basis.

In planning the proper diet for a diabetic, the following points have gained recognition. 1—The principle of total caloric restriction.

2—Protein allowance to maintain nitrogen equilibrium but no more. 3—Carbohydrate allowance to a point just below that which the insufficiency of the pancreas will permit. 4—Fat allowance to bring the total calories to the desired amount, but never exceeding the amount which can be burned without acidosis, i. e., balancing the ketogenic—antiketogenic process. 5—A consideration of the fuel which may be supplied from the patient's own body, be it fat, protein or carbohydrate.

1. Total caloric restriction. The chief value of such restriction depends on its reduction of the metabolic rate, thereby lessening the food requirements. It has been shown that the basal metabolic (2. 3.) rate of the diabetic is practically the same as a normal individual's providing the patient is not on a high protein or high caloric diet, or in a state of extreme starvation in which the body protein has been called upon and has produced its specific dynamic action; also providing that there is no complicating condition such as an acute infection or hyperthyroidism.

Allen, Stillman and Fitz (1) Joslin. (4) Allen and DuBois (2) and Wilder, Boothby and Beeler (3) are all in accord, that measures which reduce the metabolic rate, increase the diabetic's tolerance for carbohydrates. That this reduction of metabolism can be produced on a diet low in calories as well as by starvation is the opinion of Lusk, (5). Indeed Wilder (6) finds that a diet low in protein, but furnishing calories 20 per cent below the calculated basal requirement will produce a 15 to 20 per cent depression of the basal metabolism.

That the extreme starvation as often practiced in recent years is unnecessary, is the opinion of Woodyatt (7), Wilder (6) and Newburg and Marsh (8). That it may defeat its purpose (that of reducing metabolism) is also possible, due to the fact that when the fat stores of the patient are depleted the protein is called upon and in consequence the metabolism again rises. Also the carbohydrate portion of this protein is thrown into the circulation, again taxing the pancreas. This point has recently been emphasized by Woodyatt (7) who points out that we must not think of the diet exclusively, but also of what may be drawn from the patient's own store to keep up heat production.

Even the moderate food restriction enforced during the World War according to statistics of Magnus-Levy (6) lessened the incidence of diabetic deaths.

In estimating the basal caloric requirements of a patient Wilder (6) uses a chart prepared by Boothby and Sandiford (9) according to the

DuBois (10) standard, based on age, sex, weight, height and body surface. For practical purposes it seems accurate enough to assume that the body normally requires 25 calories per kilogram body weight and in preparing a diet for low maintenance to consider 20 calories per kilo sufficient.

2. Protein allowance to just maintain nitrogen equilibrium. The minimal protein allowance of man has been a matter of controversy. The earlier investigators considered that 1 to 2 gms. of protein per kilogram body weight per day were necessary to make good the losses of the tissue due to wear and tear. More recent data are however lower, due as Sherman has pointed out, to more accurate methods and a better understanding of the subject. Marsh, Newburg and Holly (12) have recently reviewed the subject and added their own observations on diabetic patients. They maintain that it is an established fact that nitrogen equilibrium may be maintained on less than 0.66 gms. protein per kilo body weight per day, providing that the total caloric intake of carbohydrate or fat is sufficient to supply the body needs for heat and energy and allow the protein to be used for restoring body tissue.

It has been well established clinically for some time that diabetics do badly on high protein intake. This is due to three reasons: 1.... Because the specific dynamic action of protein increases the metabolic rate, as previously discussed; 2—Because in the burning of protein 58 per cent of its weight according to Woodyatt (7) is actually converted into glucose and is equivalent to feeding so much carbohydrate food; and 3—According to Wilder (3) protein seems to exert some unexplained specific depressant effect on the sugar burning mechanism.

A new interest has been stimulated by the recent successful use of high fat low protein and sugar diets by Newburg and Marsh (8). Woodyatt (7) discusses such protein restrictions, laying emphasis however on the protein sparing qualities of the ingested fat.

3. Carbohydrate restriction. Woodyatt (7) characterizes diabetes as being one specific defect, i. e., as inability on the part of the body to utilize as much glucose as may be utilized by the normal body, when the supply of glucose exceeds certain limits. He considers that the body's sugar utilizing apparatus (the pancreas) is stimulated to a state of fatigue and decreased function, hence if less carbohydrate is fed, the organ would be allowed to rest and recuperate up to a certain limit, and the tolerance for sugar increased.

Such ideas are in accord with clinical facts



and in treatment, sugar is restricted to the limit, necessary to maintain a normal blood sugar. That is providing enough glucose is kept burning to allow the fatty acids to metabolize and thereby avoid acidosis.

4. Fat allowance. It is stated that fat burns in the fire of the carbohydrate, hence the necessity of balancing these two diatetic elements so that no more fat is allowed than can safely be taken care of by the sugar burning ability of the patient. In other words, balancing the ketogenic antiketogenic materials, so that the fatty acids (ketogenic) do not accumulate in the body and produce the state of acidosis.

Just how many grams of fat (or fatty acids) can be burned in the fire of one gram of glucose has been the disputed point. Previous to the recent use by Newburg and Marsh (8) of high fat diets there has apparently been an undue fear of the use of fat. These investigators pushed the fat content far beyond that which has previously been considered safe, yet, have encountered no cases of acidosis attributed to such a diet. The possibility of such a high fat diet being safe, has recently been explained scientifically by Shaffer (13) Woodyatt (7) and by Wilder and Winter (6). In the test tube Shaffer has determined that two molecules of fatty acid will burn with one molecule of glucose, the 2 to 1 ratio. Woodyatt considered that the ratio was 1 to 1 or 1.5 to 1.

Each molecule of fat contains three molecules of fatty acid and one molecule of glycerol. It is assumed that glycerol acts antiketogenically as one half a molecule of glucose and therefore ketolizes one of the fatty acid molecules. This leaves of each molecule of fat, two molecules of fatty acid to be cared for by one molecule of glucose (2 to 1 ratio). In reality then, one molecule of fat burns with one molecule of glucose. The molecular weight of fat is assumed to be about 874 and that of glu-

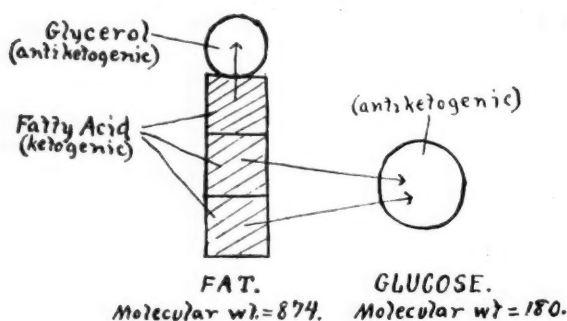
cose to be 180, therefore 874 gms. of fat will burn with 180 gms. of glucose, or 4.86 gms. of fat with 1 gm. of glucose. But in-as-much as the existance of infection and possibly other factors yet undetermined may lower the 2 to 1 ratio of ketogenesis, it is considered to provide a margin of safety, that a 1.5 ratio gives less danger of exceeding the threshold limit, this ratio giving 3-75 gms. of fat to each one of the glucose.

In this connection it is well to consider the carbohydrate derivable from protein. Woodyatt (7) states that according to the findings of Lusk, Osborne, Mendel and Shaffer, that from each 100 gms. of protein, 58 gms. of glucose are derivable. However, this same 100 gms. of protein also yields a certain quantity of products, chiefly amino acids and estimated at 16 gms., which is quite the equivalent of diacetic acid in its ketogenic action. Therefore in estimating the antiketogenic action of the protein carbohydrate, this amount must be subtracted from the 58 gms., leaving only 42 gms. to be considered. For safety, probably only 40 per cent of the protein should be considered as available antiketogenic carbohydrate.

5. Consideration of the fuel which may be supplied from the patient's own body. When a man fasts, his heat production does not stop and his temperature does not drop. In order to keep up this heat production, the body tissues are called upon to furnish fuel. This to the extent of about 25 calories per kilogram body weight, if at rest, while with physical exertion it is much higher.

Benedict's case (14) is the best example of a careful complete metabolic observation of a fasting individual. His case was fasted 31 days. On the first day of fasting it was estimated that he produced 27.1 calories per kilo, or 1769 calories in all, furnished by 63.8 gms. of carbohydrate, 135 gms. of fat and 47.6 gms. of protein. On the third day he produced 26.4 calories per kilo, furnished by 38.5 gms. of carbohydrate, 130 gms. of fat and 68 gms. of protein. On the thirty-first day, he produced 23.5 calories per kilo or 1281 calories in all coming from no carbohydrate, 115 gms. of fat and 41.6 gms. of protein. His available carbohydrate was practically exhausted by the sixth day. In the table is listed data gleaned from Benedict's book (14) and shows briefly some of the metabolic factors during fasting.

It is evident from what has been previously said, that in fasting patients or in placing them on a diet much below their caloric requirements, that the factors of endogenous metabolism must be considered.



Diagrammatic representation of the fat and glucose molecule showing the ketogenic and antiketogenic components.

## BENEDICT'S CASE FASTED 31 DAYS

|  | Last<br>Day of<br>Food | FAST DAYS |        |        |        |        |        |       |        | Third<br>Day of<br>Food |
|--|------------------------|-----------|--------|--------|--------|--------|--------|-------|--------|-------------------------|
|  |                        | 1         | 3      | 5      | 7      | 9      | 14     | 21    | 31     |                         |
| Body Wt. K. ....                           | 60.64                  | 59.60     | 57.79  | 56.37  | 55.50  | 54.63  | 53.15  | 50.49 | 47.39  | 48.17                   |
| Temp. Rectal C. ....                       | .....                  | 36.41     | .....  | 36.58  | 36.42  | 36.50  | 36.30  | 36.12 | 36.14  | 37.53                   |
| Pulse Rate .....                           | 73                     | 74        | 70     | 67     | 64     | 63     | 58     | 59    | 60     | 84                      |
| B. P. Lying.....                           | 124/93                 | 134/100   | 113/80 | 113/85 | 112/85 | 110/81 | 104/80 | 98/75 | 101/80 | 124/102                 |
| Resp. Rate .....                           | 10.6                   | 9.3       | 11.3   | 11.8   | 11.8   | 12.1   | 12.4   | 10    | 13.3   | 14                      |
| Heat Produced<br>per K. ....               | 25.2                   | 27.1      | 26.4   | 24.7   | 24.6   | 23.5   | 23.0   | 23.0  | 23.5   | 27.1                    |
| Carbohydrate gms.<br>Katabolized, 24 hrs.. | .....                  | 68.8      | 38.5   | 15.1   | 0      | 13.5   | 0      | 0     | 0      | .....                   |
| Fat<br>Katabolized, 24 hrs..               | .....                  | 135       | 130    | 133    | 134    | 119    | 117    | 112   | 115    | .....                   |
| Protein<br>Katabolized, 24 hrs..           | .....                  | 42.6      | 68.0   | 62.5   | 58.7   | 64.4   | 62.6   | 47.6  | 41.6   | .....                   |
| Total Heat<br>Output, 24 hours.....        | .....                  | 1769      | 1702   | 1609   | 1540   | 1481   | 1394   | 1276  | 1281   | .....                   |
| Calories From<br>Carbohydrate .....        | .....                  | 291       | 163    | 64     | 0      | 57     | 0      | 0     | 0      | .....                   |
| Calories From<br>Fat .....                 | .....                  | 1290      | 1238   | 1269   | 1280   | 1139   | 1117   | 1066  | 1097   | .....                   |
| Calories From<br>Protein .....             | .....                  | 188       | 301    | 276    | 260    | 285    | 277    | 210   | 184    | .....                   |

Applications of the principles. From a practical standpoint it is often impossible to plan and obtain the proper execution of an individually planned diet. For this reason we are making use of a test diet system, shown in table, which as a nucleus involves only six diets, each one based on a certain body weight, allows 20 calories and 0.50 gms. protein per kilo and enough carbohydrate and fat in the proportion of 3.5 gms. fat to 1 gm. of available carbohydrate to bring the total calories to the desired amount. On beginning treatment the patient is placed on the appropriate diet for his body weight until he is sugar free. Then in case of a lean patient he is stepped up to the next diet, and so on, until he is getting 30 calories and 60 gms. protein per kilo, which occurs on his third diet. In the case of a fat diabetic however, it has seemed more advisable to gradually add only the 5 or 10 per cent vegetable to the original diet, thereby bringing the total calories and protein intake up to actual requirements of an individual taking exercise, without increasing the fat, which in the larger amount is often found objectionable.

We believe that such a procedure simplifies the dietary treatment of a diabetic without sacrificing the scientific consideration of his or her requirement and in practice has been found very satisfactory.

Pancreatic extract treatment. Since 1889 when Von Mering and Minkowski discovered that total pancreatectomy always produced a severe and fatal diabetes in the dog, there have

DIABETIC TEST DIETS  
FOR DESUGARIZATION

| No. | Weight<br>Patient         | Cals. | P Gms. | C Gms. | F Gms. | 5% Veggies.<br>Oz. | Lean<br>Meat, Oz. | Eggs | Bacon, Oz. | 40%<br>Cream Oz. | Butter or<br>Olive Oil |
|-----|---------------------------|-------|--------|--------|--------|--------------------|-------------------|------|------------|------------------|------------------------|
| 1.  | 35-45K<br>75-100<br>lbs.  | 800   | 20     | 11     | 70     | 8                  | 1                 | 1    | 0          | 3                | 1                      |
| 2.  | 45-59K<br>100-120<br>lbs. | 1000  | 25     | 14     | 90     | 11                 | 1                 | 1    | 1          | 3                | 1                      |
| 3.  | 55-65K<br>120-145<br>lbs. | 1200  | 30     | 17     | 108    | 14                 | 1                 | 1    | 1          | 3                | 2                      |
| 4.  | 56-75K<br>145-165<br>lbs. | 1400  | 35     | 20     | 125    | 17                 | 2                 | 1    | 1          | 3                | 2                      |
| 5.  | 78-85K<br>165-185<br>lbs. | 1600  | 40     | 23     | 145    | 20                 | 2                 | 1    | 2          | 3                | 2                      |
| 6.  | 85-95K<br>185-210<br>lbs. | 1800  | 45     | 26     | 160    | 23                 | 2                 | 1    | 2          | 3                | 2                      |

been many attempts to obtain an extract from the pancreas which, when administered to a diabetic would aid him in the utilization of sugar. These attempts have failed because of the fact that the external secretion of the pancreas destroys the internal secretion when they come in contact.

Recently, however, a group of investigators at the University of Toronto, (Banting, Best, McLeod, et al), have obtained a potent extract of the pancreas, which, when injected into a diabetic dog or man produces a rapid burning of sugar and a corresponding fall in the blood sugar.

It was recently the writer's privilege to visit Toronto and go over the results of their work.

Their patients are all carefully controlled as to diet and metabolic study and their extract (insulin) when given hypodermatically causes the patient to burn sugar in proportion to the amount of extract administered. This extract, however, is not potent when given by mouth or rectum as its active principle is destroyed by the intestinal contents. Its use is analogous to the use of thyroid extract in myxoedema, it is not curative but must be continuously administered to supply the necessary internal pancreatic secretion which the diabetic patient lacks. Its use does not replace the dietetic management and it is advocated by the discoverers themselves only in those cases which have a very low sugar tolerance and hence uncontrollable by dietetic means, in these patients its use is life saving. The two big drawbacks to its use lie in the fact that it must be given by hypo, once, twice or three times per day and its high cost of manufacture which at present places it beyond the great number of diabetics. Another objection to its routine use is that it is not void of danger as an over dose may reduce the blood sugar to such a low level that death results from the blood sugar being too low rather than too high, hence its administration should be done only under carefully controlled conditions. I believe the discovery of these Toronto investigators to be the greatest that has taken place since the discovery of Salvarsan.

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## AN INVITATION

January 26, 1923.

Dr. F. C. Warnshuis,

Editor Journal of Michigan State Medical Society,  
Grand Rapids, Michigan.

Mr Dear Dr. Warnshuis:

I am writing to call your attention to a feature of the program of the coming annual meeting of the Ohio State Medical Association, Dayton, Ohio, May 1, 2 and 3—which may be of special interest to some of your membership.

The Eye, Ear, Nose and Throat Section of our Association has secured Dr. Robert Von Der Heydt of Chicago to deliver an address on "Slit Lamp Microscopy of the Living Eye, Its Aid to Histological Research and as a Refinement in Ophthalmic Diagnosis."

This is a subject of great interest to ophthalmologists, now coming to their attention through the influence and efforts of men like Dr. Von Der Heydt, who is one of the pioneer workers in this field in this country.

Dr. Alderdyce, the Section Chairman, feels that the Association is very fortunate in securing Dr. Von Der Heydt to present this important subject, and he hopes that not only the physicians of Ohio, but those of adjoining states—Michigan, Indiana, Kentucky, Pennsylvania and West Virginia—will avail themselves of the opportunity to hear him.

Will you not, therefore, through the medium of your State Journal, and in any other way possible, extend an invitation to your membership to hear this address on Wednesday, May 2, at 9:00 a. m.

Other features of the Ohio program will include an oration on Public Health by Dr. Livingston Farland, president of Cornell University, and an oration on Surgery by Dr. Joel E. Goldthwait, Boston. Both of these addresses will be delivered on the afternoon of May 2nd.

With kindest regards and assuring you that we will be glad to welcome any of your members at the meeting, I am

Sincerely yours,

Don K. Martin, Executive Secretary.

THE JOURNAL  
IS  
YOUR FORUM—  
WE INVITE YOU  
TO UTILIZE  
IT FOR THE  
EXPRESSION OF  
YOUR VIEWS  
ON  
MEDICAL SUBJECTS



## Annual Meeting of the Council

### OFFICIAL MINUTES

The regular annual meeting of the Council of the Michigan State Medical Society was held in the Michigan Union in Ann Arbor, on Jan. 16, 1923.

The first session convened at 6:15 P. M., at dinner as the guests of President Dodge. The meeting was called to order by Chairman Seeley with the following Councilors, Officers and guests present: A. L. Seeley, J. B. Jackson, Geo. L. LeFevre, W. J. DuBois, C. C. Clancy, H. E. Randall; President, Dodge, Treasurer, Welsh, Secretary-Editor, F. C. Warnshuis, M. L. Burton, A. M. Hume, F. B. Tibbals, Geo. Frothingham, Reuben Petersen, L. M. Warfield, J. B. Kennedy, F. Kelly, E. C. Taylor, G. H. Ramsey, Dean H. Cabot, G. Carl Hueber, W. H. McCracken, John Sundwall.

Chairman, Seeley addressed the Council as follows:

In a paper by Dr. Olin West, Secretary of the American Medical Association, read before the Annual Conference of Constituent Medical Associations at Chicago in November 1922, he states:

"While it is highly desirable that every qualified man should be affiliated with his County Medical Society, State Medical Association and the American Medical Association, it is not at all desirable that unqualified men should be brought into affiliation, unless there is a very good basis for belief that such men can be helped with respect to their scientific equipment and brought to appreciate the righteousness of the principles of medical ethics and the holiness of the true ideals of the real medical profession."

It is our opinion that if the truths set forth in the above paragraph, as expressed by Dr. West, could be firmly impressed upon the members of the County Society they would greatly profit thereby.

Men educated in the medical profession and holding a license to practice medicine are, with a few exceptions, allowed to become members of the County Medical Society.

As a rule, the young man does not appreciate the honor that is being conferred upon him and the old man oft times joins the society to help cover up his sins and short comings. There is some hope for the young man, because, by this association with his fellows, in time he may learn, if he is right minded, that the best and only way is to practice ethical medicine, always observing the right of his fellow practitioners.

Medical ethics are oft times jeered at and ridiculed by the laity, because they do not

understand that all that constitutes medical ethics is the Golden Rule, "To do unto others as you wish to be done by," and the medical student's life time associations with the laity tend to make him take the same attitude. In his progress through school he has heard many times about medical ethics, but too many go into practice with the idea that ethics are all right but are intended only for the "other fellow." They are not sufficiently impressed with the fact that it applies to their own individual conduct.

How has the violation of our medical code affected the members of the Michigan State Medical Society?

Every year we listen to the report of the Chairman of the Medical Legal Defense Committee, Dr. F. B. Tibbals. We hear the names of the unfortunate doctor or doctors who have been sued for malpractice and sometimes, but very rarely, the names of the doctor or doctors who were the cause of the suit. We congratulate ourselves that the committee reported so few suits and had so few convictions and "let it go" at that.

The medical defense was organized January 1, 1910 and the members have put into that fund a total of \$37,365. Up to the present time the committee has had 310 cases of malpractice to look after and, that they have looked after them well is attested to by the fact, that, out of the 310 cases, only three cases were finally lost. In every malpractice suit there must be medical evidence for the prosecution and when a suit is started, with very few exceptions, it is started because some doctor, maybe not willfully, has said something that has induced the suit to be brought.

Now, what shall we, as Councillors, recommend to help correct the above condition? Would you recommend that it be the duty of the Medical Legal Officer in all County Societies to make a report to his society when a suit is threatened and again when the case is called into court, so that any doctor, if he so desires, may have the opportunity to hear the testimonies? After the case is discontinued or taken through courts, the Medical Legal Officer should report to the local society the disposition of the case *and the names of the doctor or doctors who caused, by their unethical conduct, the suit to be started.* By so doing it enables the Society, through its censors, to take the matter up and if medical ethics

have not been observed during the progress of the case, they will be in a position to advise the Society regarding what discipline should be measured out to the offending doctor or doctors.

Should we not recommend that when a new member is admitted to the County Society that his medical life be carefully scanned? That he be taken privately by one or more of the Board of Censors and with a few earnest words presented with a copy of the Principles of the Medical Ethics of the American Medical Association and requested that it be read over carefully and that it was expected that he govern himself accordingly? If this is done in all cases I am sure it will have a salutary effect upon our Defense Fund.

President Dodge addressed those present, outlining the activities that he was engaged in for the benefit of the Society and its members and the results that had been attained.

Dr. A. M. Hume, Chairman of the Committee on Legislation and Public Policy outlined the work that had been done by his Committee and their proposed activity during the present session of the legislature and submitted the following:

#### LEGISLATIVE COMMITTEE

The Committee on Legislation and Public Policy met with President Dodge in Lansing on Friday, December 8th. After thorough consideration of the most important public policies and possible legislation, which we as an organization will be compelled to either support or oppose, it was agreed between all present, (President Dodge included), that the Committee will unanimously and wholeheartedly support and co-operate in:

1. The present working plan of the State Society and the Medical Faculty of the University in educational extension work.
2. The opposition to the establishing of a separate faculty and training school for nurses at University of Michigan.
3. Support of the emphatic request to the Regents, that the administration of the University of Michigan Hospital be placed in control of the Medical Faculty, instead of independent control, as now existing.
4. An organized stand against any increased statutory recognition of the "cults" in medical practice, and support of our State Board of Registration in its efforts to more effectively enforce the provisions of our very liberal medical practice act.

There was then a general discussion of legislative activity, plans and the Sheppard-Towner law and was participated in by doctors Kelly, Chairman of the Wayne County Society, Legislative Committee, Reuben Petersen, Deputy Commissioner of Health Ramsey, Dodge, Frothingham, Jackson, DuBois, Clancy, LeFevre, Taylor, Kennedy and Hume.

On motion of Dr. DuBois, supported by LeFevre, the plan of the Legislative Committee activity as above was approved.

On motion of DuBois, supported by LeFevre

the action of President Dodge in appointing the Legislative Committee to meet with the Commissioner of Health was approved.

Dr. F. B. Tibbals, Chairman of the Medico-Legal Committee submitted the following report:

#### MEDICO-LEGAL COMMITTEE

To the Council,  
Michigan State Medical Society,  
Gentlemen:

If the number of cases handled may be taken as indicative of the value of the work of this Committee, its usefulness is increasing, for the number of cases handled is decidedly larger than ever before, being thirty-two for 1921 and thirty-seven for 1922.

For some years 1 per cent of the members of the State Society were annually sued or threatened and we used to hope that gradual education of the profession would reduce this percentage. But the increase of the past two years makes it clear that our education has not succeeded in eliminating selfishness and self-seeking from all individuals and we reluctantly accept the fact that malpractice suits will continue and perhaps increase, partly because of traits inherent in certain doctors and also as a part of the general assault made on the medical profession for some years past.

It is fortunate that the number of trial cases remains pretty uniform, for the expense of defense has increased tremendously, due to the great advance in fees exacted by all good attorneys.

During 1922 we paid \$3,600.00 to attorneys, with some bills not yet presented. Financially, our receipts have exceeded expenditures by about \$1,000, which has been placed in the reserve fund, whence it was taken during the period that the war so reduced our income.

We have repeatedly called attention to the role that the jealous doctor plays in inciting malpractice suits. Another instance has come to our attention, which is remarkable. In one rural county, we have defended three doctors and have another case pending. All these cases were incited by one man. In the trial of the last two of these three cases where two men were sued jointly, it transpired that this man had made charges which were proven false at the operation which he staged, at which he had present an outside surgeon, an attorney and stenographer and other prospective witnesses. Even after he knew that nothing was found to reflect on the ability of the previous operators, he allowed the case to go to trial with himself as the principal witness for the plaintiff. Such men do not belong in the ranks of organized medicine.

Respectfully submitted,  
F. B. Tibbals,  
C. B. Stockwell,  
Charles W. Hitchcock,  
E. C. Taylor.

Treasurer Welsh submitted the following report:

January 6th, 1923.

To the Council of the  
Michigan State Medical Society,  
Gentlemen:

The following will convey to you the amount of funds of the Michigan State Medical Society in my hands for the year ending December 31st, 1922.

|  |            |
|--|------------|
| Citizens Telephone 5% Bonds, Numbers   |            |
| 139 and 140.....   | \$2,000.00 |
| The following will convey to you the amount on hand in the Defense Fund for the year ending December 31st, 1922. |            |

U. S. Liberty Loan Bonds, Second Issue  
 Converted 4½%, No. A-00015756.....\$ 500.00  
 Holland St. Louis 8% Bond, No. M-757..... 1,000.00

Total .....\$1,500.00

Respectfully submitted,  
 D. Emmett Welsh, Treasurer.

January 15, 1923.

F. C. Warnshuis, M. D.,

Secretary, Michigan State Medical Society.

Report of Committee on Cripples appointed to meet with Committee representing Rotary Clubs of Michigan.

The first meeting of these two Committees was called for September 16, 1922, but owing to inability of some members of the Rotary Committee to be present, the meeting was postponed.

The second meeting was requested by Chairman Van de Walker of the Rotary Committee to take place October 27, 1922, but owing to the meeting of the American College of Surgeons of Boston on this date, your Committee was unable to attend.

The third date suggested by Mr. Van de Walker was November 3, 1922, but owing to the necessity of our Chairman being away from the city, it was impossible to attend at this time. One of the other members of your Committee was requested to meet with the Committee of the Rotary Clubs on this date.

Similar work to that suggested by the Rotary Clubs of Michigan is being carried on by the Rotary Clubs of Ohio in conjunction with the Committee representing the Ohio State Medical Society, accordingly our chairman went to Toledo on September 12, 1922, to meet with members of the Committee of the Ohio State Medical Society, to discuss the matter of caring for the cripples. Other meetings with members of this Ohio Committee and our Chairman took place on October 4, 1922, and on December 15, 1922, the Minnesota State Hospital for Cripples at St. Paul was visited.

Owing to the advice and knowledge gained from these discussions, we feel better able to handle the questions which may arise.

We have advised Mr. Van de Walker that we shall await word from him as to the time and place of meeting of our respective Committees.

We feel that the Rotary Clubs of various states are doing a notable work and it is our desire to cooperate with them to attain the greatest good.

We have at hand a consensus of all cripples in the various State Institutions of Michigan.

Respectfully submitted,  
 A. D. LaFerte, Chairman.

#### COMMITTEE ON CIVIC AND INDUSTRIAL RELATIONS

If the Committee on Civic and Industrial Relations is to do worth while work its duties and its limitations must be defined by this Council.

Are we expected to make a campaign, when the Publication Committee announce that they will remain absolutely neutral and that means that the Committee can expect no active support from its State Journal? Are we expected to limit our activities to such matters as have been sealed with the approval of the State Health Commissioner?

It is in no spirit of sarcasm that these questions are put before the Council. The Chairman asks for positive information.

We expected this year to take up the question of Paternalism in Medicine as shown in the Shepard-Towner bill. Much time and some money had been spent in securing data. We expected to go into every County Society with this information, showing what this bill would mean financially, morally and medically to the people of this state.

Some weeks ago the Chairman received a letter from the secretary of this Council, stating that State Board of Health Commissioner Olin wanted no fight made against this bill in the Legislature, for fear that other health bills might be hurt. And that, anyway, he, the Health Commissioner, had already accepted certain of the law's provisions for Michigan.

Your secretary asked for an opinion as to what should be done. To which I replied promptly, fight and let other health legislation stand or fall on its merits. The next issue of the Journal proclaimed neutrality and the Secretary sent his data on to me with word that it was up to this Committee.

Frankly, gentlemen, what is there to do? With neutral Journal, with a State Commissioner of Health and his paid cohorts fighting for paternal medicine—with his unanswerable argument that even our publication committee refused to commit itself as against the measure—what could your Committee say? In the health insurance fight, we continually met the charges from state paid health board men that we were afraid that our business would be hurt—that we were cheap seekers after notoriety—that we were not the friends of suffering humanity.

Today we meet the charge that at best the M. D. is but a first aid; that the real responsibility for health rests on the Sanitarian. If you do not believe it read the speeches being made every day by state paid officials.

If you think health insurance is a dead issue, ask the secretary of the Michigan Manufacturers' association if that is not included in the bills they expect to be compelled to fight in this legislature. All of which is in the province of the Legislative Committee.

I have no report to make of work done by this Committee, saving as it backed up the work of this Council in opposing the Super-Education of Nurses or the education of Super Nurses at the University Hospital. Our hands have been tied and I ask this Council to untie them if good, honest, effective work, unhampered by political health board men, is to be done by the Committee backed up by all the power of this Council and its committees. This Committee is not trying to shirk any work. It is not afraid to meet an issue, but it does demand that it receive the active support of the Council and of its official organ.

George Frothingham.

Adjournment was taken at 11:45 P. M. to meet at 9:00 A. M., January 17th.

#### SECOND SESSION

The Council was called to order at 9:00 A. M., January 17th by Chairman Seeley with the following present: Clancy, Seeley, Jackson, Randall, DuBois, LeFevre, Dodge, Welsh, Hume and the Secretary.

Consideration was directed to the report of the Committee on Civic and Industrial Relations. On motion of DuBois, supported by Clancy, the Chairman of the Committee on Civic and Industrial Relations was directed to call a meeting of his Committee within thirty days and to undertake a campaign of activity that may be determined by the Committee and in compliance with the by-law outlines the duties of that Committee.

#### SHEPARD-TOWNER BILL

Moved by DuBois, supported by Randall,



that: Be It Resolved, that the members of the Michigan State Medical Society are opposed to the provisions of the Shepard-Towner law. That the Publication Committee of the Journal be instructed to present through the Journal the reasons for opposition, so that our members may become better acquainted with the provisions of this law and learn of its ultimate scope. That the Committee on Legislation and Public Policy be instructed to oppose any acceptance of this act by legislature.

Carried.

#### SECRETARY-EDITOR'S ANNUAL REPORT

To the Chairman and

Members of the Council,

Gentlemen:

I am once more privileged to submit to you and through you, to our membership, my annual report as your Secretary-Editor for the year of 1922, ending on Dec. 31st.

I emphasize the fact that the recorded statements contained in this report represent the combined activities of our component county societies and reveal the achievements of a co-operative membership.

#### FINANCIAL STATEMENT

I submit herewith the financial statement and certified auditor's report of the Society's financial receipts, expenditures and resources.

To the Council of the Michigan  
State Medical Society,

Dr. F. C. Warnshuis, Secretary,  
Grand Rapids, Michigan.

Gentlemen:

Pursuant to request we have audited the books of account and record of the Michigan State Medical Society for the year ended Dec. 31st, 1922 and submit herewith our report.

The following schedule shows in a condensed form the results of the financial operations of the Society for the year ended Dec. 31st, 1922, comparing them with like operations for the year ended Dec. 31st, 1921.

#### JOURNAL INCOME

|                                     | Year Ended<br>Dec. 31, 1922 |          | Year Ended<br>Dec. 31, 1921 |          |
|-------------------------------------|-----------------------------|----------|-----------------------------|----------|
|                                     | Amount                      | Per Cent | Amount                      | Per Cent |
| Subscriptions, re-prints, sale of   |                             |          |                             |          |
| Less: Journal and advertising, etc. | \$12,663.43                 | 100.00%  | \$12,449.78                 | 100.00%  |
| reprint expense.                    | 12,240.04                   | 96.65    | 14,953.40                   | 120.10   |
| Profit—Loss—on Journal publication  | \$ 423.39                   | 3.35%    | \$ 2,503.62                 | 20.10%   |

#### DUES AND OTHER INCOME

|   |             |         |             |         |
|---|-------------|---------|-------------|---------|
| Membership dues, etc.                       | \$ 3,019.52 | 100.00% | \$ 2,996.95 | 100.00% |
| Less: annual meeting, society expense, etc. | 3,441.11    | 114.29  | 4,166.50    | 139.02  |
| Excess of society expense over dues, etc.   | \$ 421.59   | 13.96%  | \$ 1,169.55 | 39.02%  |
| Net profit—loss..                           | \$ 1.80     |         | \$ 3,673.17 |         |

A statement of the assets and liabilities of the Society as of the close of business Dec. 31st, 1922, is given elsewhere in this report subject to the following comments:

Cash on deposit at Dec. 31st, 1922, was verified by correspondence with the Old National Bank. All recorded cash receipts for the period audited were compared with the bank deposits as shown by the bank statements and found to agree. All recorded cash disbursements were found to be supported by cancelled bank checks, invoices, or other data on file.

We did not correspond with the debtors to verify the accuracy of the amount of the accounts receivable, but we took a trial balance of the individual accounts and classified them as to date of charge as follows:

|                                  |          |
|----------------------------------|----------|
| December, 1922                   | \$424.81 |
| November, 1922                   | 74.32    |
| October, 1922                    | 52.92    |
| July 1st to September 30th, 1922 | 100.01   |
| April 1st to June 30th, 1922     | 72.17    |
| January 1st to March 31st, 1922  | 33.25    |
| Prior to January 1st, 1922       | 119.50   |
| Total                            | \$876.98 |

Securities owned, represented by bonds of the Citizens Telephone Company, were verified by inspection.

Full provision has been made, as far as we could ascertain, for all known liabilities of the Society at December 31st, 1922, for unpaid purchases, expenses, etc.

We hereby certify that we have audited the books of account and record of the Michigan State Medical Society for the year ended December 31st, 1922, as kept by the Secretary-Editor, Dr. F. C. Warnshuis, and that, in our opinion, based upon the records examined and information obtained by us, the accompanying statement of assets and liabilities is drawn up so as to set forth the correct financial position of the Society at the close of business December 31st, 1922, and that the relative operating statement is correct.

Very truly yours,

Ernst & Ernst.

#### STATEMENT OF ASSETS AND LIABILITIES MICHIGAN STATE MEDICAL SOCIETY ASSETS

(As of the Close of Business, December 31st, 1922.)

|   |                   |
|---|-------------------|
| Cash—                                   |                   |
| Old National Bank                       | \$ 704.93         |
| Accounts Receivable—                    |                   |
| Due from Subscribers, Advertisers, etc. | 876.98            |
| Securities Owned—                       |                   |
| Citizens Telephone Company              |                   |
| 5% Bonds                                | 2,000.00          |
|   | <u>\$3,581.91</u> |

#### LIABILITIES

|   |                   |
|---|-------------------|
| Accounts Payable—   |                   |
| Unpaid Purchases  | \$ 144.49         |
| Advances for Reprints   | 98.66             |
| Due to Defense Fund   | 186.00            |
| Net Worth—  |                   |
| Balance January 1st, 1922   | \$3,099.96        |
| Reserve for expenses of Legislative Committee restored to Net Worth | 51.00             |
|   | <u>\$3,150.96</u> |

|  |      |                   |
|--|------|-------------------|
| Add: Net Profit for Year ended December 31st, 1922 | 1.80 | 3,152.76          |
|  |      | <u>\$3,581.91</u> |

INCOME AND EXPENSE  
MICHIGAN STATE MEDICAL SOCIETY  
(For the Year Ended December 31st, 1922).

| INCOME                      |             |             |      |
|-----------------------------|-------------|-------------|------|
| Journal Subscriptions and   |             |             |      |
| Sales .....                 | \$ 5,729.15 |             |      |
| Advertising Sales .....     | 5,890.28    |             |      |
| Reprint Sales .....         | 1,044.00    |             |      |
| Membership Dues .....       | 2,824.55    |             |      |
| Interest Received .....     | 194.97      | \$15,682.95 |      |
| EXPENSE                     |             |             |      |
| Journal Expense .....       | \$11,182.86 |             |      |
| Reprint Expense .....       | 1,057.18    |             |      |
| Society Expense .....       | 2,558.75    |             |      |
| Annual Meeting Expense..... | 531.75      |             |      |
| Expense of Delegates to A.  |             |             |      |
| M. A. ....                  | 265.46      |             |      |
| Miscellaneous Expense ..... | 85.15       | 15,681.15   |      |
| NET PROFIT .....            |             | \$          | 1.80 |

For the first time since 1918 we are able to report a financial gain. While this gain is small it is indicative of the fact that we have been able to finance our obligations without calling upon our membership for increased dues. For comparative purposes we submit the following exhibit:

|                     | 1921       | 1922       | Loss   | Gain     |
|---------------------|------------|------------|--------|----------|
| Dues .....          | \$2,676.05 | \$2,824.55 |        | \$148.50 |
| Advertising .....   | 5,779.57   | 5,890.28   |        | 110.71   |
| Journal Sales ..... | 5,428.45   | 5,729.15   |        | 300.70   |
| Interest .....      | 298.10     | 194.97     | 103.13 |          |

THE JOURNAL

During the year 36,250 copies of the Journal were mailed to our members and subscribers. This twenty-first volume contained 528 pages of reading matter and 330 pages of advertising. The total cost of the Journal was \$11,176.21. The total earnings were \$11,454.36, thereby exhibiting a net profit on the Journal of \$278.15. This profit is in pleasing contrast with the loss of \$2,503.62 reported for 1921. The Journal was larger in size than that of 1921 and was published and distributed at \$1,273.57 less cost than in 1921.

The net advertising receipts were \$5,924.63, an increase of \$145.06 over last year, and represents the largest advertising revenue that the Journal has ever earned. Because of increased circulation, our advertising rates have been increased. This increase became effective on January 1st and should enable us to increase our earning revenue during 1923, provided that patronage of our advertisers by our members enables us to hold our contracts.

The above financial comment on the Journal verifies the opinion that was expressed in our last annual report, at which time we made the statement that we felt justified in concluding that we had at last weathered the financial storm. While we are gratified that this has been confirmed, it must not be presumed that during the coming year we can relinquish our alertness to the publication's financial welfare with a belief that it will remain self-supporting.

As to the value of the Journal we make no comment. Our endeavor has been to edit our official publication so that it will reflect credit to our organization. With the means at hand it has been possible to keep a standard that commends the esteem and respect of the medical journalistic world. At no time have we been content, nor have we felt satisfied, that the Journal had attained perfection and that it was all that it could be made. Necessity has compelled us to desist from instituting a larger department of original articles, a Clinical Department, a Department devoted to

Radiological and Mechanical Therapeutics and an editorial department on the Progress of Scientific Medicine. It must be perceived that such enlargement will immediately add to the value of our publication and will go far to place it above other similar journals. It is our ambition to institute these departments just as soon as our finances permit and the Publication Committee feels that our income will warrant their establishment.

To cause the Journal to serve our membership as it has served in the past and to further organizational activities is constantly demanding more time, thought and effort. It is difficult to convey all that is entailed in editorial management. We have at all times sought to meet up to the wishes of the majority of our members. We have endeavored to cause the Journal to be a medium for the publication of our members' original articles and reports. We regret that the lack of space has compelled us to forego the publishing of some valuable articles and also that there has been vexing delays in the appearance of other articles that were submitted. We have allotted as much space as possible to the minutes, notices and activities of allied medical organizations in the state and sought to aid them in so far as it is possible. In the editorials and editorial comments it has been our purpose to make suitable comment and to record reasonable opinions upon passing events that are of concern to the profession. Likewise, it has been our purpose to record the achievements of our component county societies and to cause the news notes to record the activities of our members.

We desire to draw attention to and express our appreciation for the valued assistance that has been contributed by our associate, Dr. Guy L. Connor. He has been faithful in submitting the news items pertaining to Detroit and vicinity. In addition he has always cheerfully responded to every request that has been made of him. This co-operation on his part has been of distinct aid to the Journal and has enabled it to be of greater service to our society.

We reiterate the conclusion that the Journal contributed immeasurably to the amalgamating of our organizational prestige and influence while at the same time it holds our members in intimate contact. It aids in keeping them abreast with medical progress.

SOCIETY WORK

The following list records our membership by county societies and represents the membership in good standing on December 31st, 1922. These figures have been confirmed by reports submitted by County Secretaries during December.

| County Society                  | Members 1921 | Members 1922 | Loss | Gain | Number Delinquents | Non-Members Eligible | No. of Meetings | Average Attendance |
|---------------------------------|--------------|--------------|------|------|--------------------|----------------------|-----------------|--------------------|
| Alpena .....                    | 21           | 12           | 9    | 0    | 2                  | 7                    | 10              |                    |
| Antrim Charlevoix, Emmett ..... | 14           | 12           | 2    | 18   | 3                  | 0                    | 0               |                    |
| Barry .....                     | 17           | 16           | 1    | ..   | ..                 | ..                   | ..              |                    |
| Bay .....                       | 62           | 63           | ..   | 1    | 3                  | ..                   | 12              | 26                 |
| Benzie .....                    | 8            | 8            | 0    | 0    | 0                  | 1                    | 1               | 5                  |
| Berrien .....                   | 37           | 36           | 1    | ..   | 5                  | 29                   | 12              | 14                 |
| Branch .....                    | 17           | 14           | 3    | ..   | 0                  | 6                    | 5               | 8                  |
| Calhoun .....                   | 100          | 94           | 6    | ..   | 6                  | 10-12                | 9               | 43                 |
| Cass .....                      | 7            | 7            | ..   | ..   | ..                 | ..                   | ..              | ..                 |
| Cheboygan .....                 | 3            | 0            | 3    | ..   | ..                 | ..                   | ..              | ..                 |
| Chippewa .....                  | 15           | 20           | ..   | 5    | ..                 | ..                   | ..              | ..                 |
| Clinton .....                   | 11           | 15           | ..   | 4    | 10                 | 10                   | 3               | 5                  |
| Delta, Dickinson ..             | 20           | 22           | ..   | 2    | 0                  | 0                    | 10              | 12                 |
| Iron .....                      | 11           | 13           | ..   | 2    | 10                 | 0                    | 6               | 9                  |
| Eaton .....                     | 17           | 11           | 6    | ..   | 25                 | 25                   | 1               | 5                  |
| Genesee .....                   | 112          | 114          | ..   | 2    | 0                  | 0                    | 22              | 57                 |

|                                     |      |      |     |    |     |       |     |       |
|-------------------------------------|------|------|-----|----|-----|-------|-----|-------|
| Gogebic .....                       | 12   | 21   | ..  | 9  | 0   | 2     | 10  | 15    |
| Grand Traverse, Leelanau .....      | 24   | 21   | 3   | .. | 0   | 4     | 11  | 12    |
| Gratiot, Isabella, Clare .....      | 36   | 35   | 1   | .. | 1   | 5     | 8   | 12    |
| Hillsdale .....                     | 21   | 19   | 2   | .. | 2   | 9     | 4   | 12    |
| Houghton .....                      | 49   | 39   | 10  | .. | 7   | 6     | 12  | 14    |
| Huron .....                         | 18   | 4    | 12  | .. | 13  | 13    | 7   | 3     |
| Ingham .....                        | 85   | 79   | 6   | .. | 8   | 10    | 14  | 29    |
| Ionia .....                         | 21   | 17   | 4   | .. | 6   | 10    | 3   | 12    |
| Jackson .....                       | 57   | 65   | ..  | 8  | 5   | 18-20 | 6   | 45    |
| Kalamazoo, Allegan, Van Buren ..... | 112  | 117  | ..  | 5  | 6   | ?     | 19  | 41    |
| Kent .....                          | 175  | 174  | 1   | .. | 12  | 10    | 14  | 60    |
| Lapeer .....                        | 23   | 10   | 13  | .. | ..  | ..    | ..  | ..    |
| Lenawee .....                       | 28   | 27   | 1   | .. | ..  | ..    | ..  | ..    |
| Macomb .....                        | 26   | 30   | ..  | 4  | ..  | ..    | ..  | ..    |
| Manistee .....                      | 12   | 8    | 4   | .. | 3   | 5-6   | 4   | 8-10  |
| Marquette .....                     | 38   | 36   | 2   | .. | 2   | 37    | 4   | 15    |
| Mecosta .....                       | 14   | 18   | ..  | 4  | 0   | 0     | 7   | 12    |
| Menominee .....                     | 7    | 9    | ..  | 2  | 0   | 4     | 12  | 15    |
| Midland .....                       | 6    | 6    | 0   | 0  | 0   | 2     | 5   | 5     |
| Monroe .....                        | 25   | 27   | ..  | 2  | 0   | 2     | 8   | 12    |
| Montcalm .....                      | 17   | 16   | 1   | .. | 4   | ?     | 2   | 14-15 |
| Muskegon .....                      | 56   | 53   | 3   | .. | 1   | 2     | 11  | 20    |
| Newaygo .....                       | 11   | 10   | 1   | .. | 1   | 2     | 8   | 7     |
| Oakland .....                       | 54   | 46   | 8   | .. | 28  | 12    | 12  | 23    |
| Oceana .....                        | 9    | 9    | 0   | .. | 0   | 1     | 7   | 7     |
| O. M. C. O. R. O. ....              | 9    | 10   | ..  | 1  | ..  | ..    | ..  | ..    |
| Ontonagon .....                     | 8    | 8    | 0   | 0  | 0   | 1     | 1   | 3     |
| Ottawa .....                        | 35   | 34   | 1   | .. | 0   | 4     | 8   | 21    |
| Saginaw .....                       | 60   | 43   | 17  | .. | 1   | 35    | 12  | 30-35 |
| Sanilac .....                       | 16   | 16   | 0   | 0  | 2   | 4     | 2   | 12    |
| Schoolcraft .....                   | 7    | 7    | 0   | 0  | 0   | 1     | 2   | 6     |
| Shiawassee .....                    | 27   | 27   | 0   | 0  | ..  | ..    | ..  | ..    |
| St. Clair .....                     | 46   | 49   | 3   | .. | ..  | ..    | ..  | ..    |
| St. Joseph .....                    | 14   | 4    | 10  | .. | ..  | ..    | ..  | ..    |
| Tri .....                           | 21   | 20   | 1   | .. | 1   | 0     | 10  | 15    |
| Tuscola .....                       | 25   | 26   | ..  | 1  | 2   | 2     | 6   | 15    |
| Washtenaw .....                     | 98   | 104  | ..  | 6  | 12  | 25    | 3   | 30    |
| Wayne .....                         | 1169 | 1126 | 43  | .. | 93  | 200   | 32  | 250   |
|                                     | 2936 | 2827 | 178 | 58 | 287 | 535   | 352 | 970   |

One year ago our membership was 2,936 as compared with the present total of 2,827. During the year death caused the loss of 35 members as follows:

|                       |                         |
|-----------------------|-------------------------|
| Dr. Wadsworth Warren  | Dr. Thomas A. Dewar     |
| Dr. Christ Theoderoff | Dr. J. W. Schureman     |
| Dr. Andrew Forster    | Dr. J. M. Easton        |
| Dr. Frank W. Martin   | Dr. Joseph Corgan       |
| Dr. R. E. Stocker     | Dr. Jason W. Jackman    |
| Dr. Edna Trewin       | Dr. George E. Moore     |
| Dr. John C. Salmen    | Dr. George W. Orr       |
| Dr. Jessie V. Ballard | Dr. Jacob Oosting       |
| Dr. F. A. Rutherford  | Dr. David Inglis        |
| Dr. A. M. Gerow       | Dr. Elam F. Srygley     |
| Dr. Charles Douglas   | Dr. C. B. G. deNancrede |
| Dr. R. E. Finch       | Dr. Chas. T. McClintock |
| Dr. William J. Duff   | Dr. Chas. B. Morrell    |
| Dr. Arthur A. Metcalf | Dr. James P. Suiter     |
| Dr. Frank R. Burdeno  | Dr. Ansley Smith        |
| Dr. Peter S. Mallard  | Dr. R. R. Cummings      |
| Dr. Russell W. Brown  | Dr. A. W. Adams         |
| Dr. J. C. Turner      |                         |

The tabulated figures merit more than passing consideration. I direct attention to the following 100 per cent county societies who form our Honor Roll:

Benzie, Delta, Genesee, Mecosta, Ontonagon, Tri. Exceptional credit is due to the officers of these societies and to the membership that composes them for their loyalty to our state organization.

Distinguished credit must likewise be accorded to the following societies for their activities, membership and the number of meetings held:

Alpena, Bay, Berrien, Calhoun, Delta, Genesee, Gogebic, Grand Traverse-Leelanau, Gratiot-Isabella-Clare, Houghton, Ingham, Jackson, Kalamazoo, Kent, Mecosta, Menominee, Midland, Marquette-Alger, Monroe, Muskegon, Oakland, Oceana, Ottawa, Saginaw, Tri, Tuscola, and Wayne.

We are unable to record a 100 per cent Councilor District. It is apparent that in each Councilor District there is one or more county society that is dormant or has fallen by the wayside. The dispo-

sition of such units must be determined by the Councilor. It is recommended that this problem receive the attention of this meeting.

Referring again to the statistical report, there are the following county societies that report a large number of doctors who are eligible to membership, but who are not so affiliated. It would seem wise that some action be taken that will witness the admittance as members of the eligible doctors so listed.

|                 |    |                 |    |
|-----------------|----|-----------------|----|
| Berrien .....   | 29 | Ingham .....    | 10 |
| Calhoun .....   | 12 | Ionia .....     | 10 |
| Clinton .....   | 10 | Jackson .....   | 20 |
| Eaton .....     | 25 | Oakland .....   | 12 |
| Hillsdale ..... | 9  | Saginaw .....   | 35 |
| Huron .....     | 13 | Washtenaw ..... | 25 |

There are also some counties that report from one to six doctors who are eligible. It would consume but little effort to bring these counties into the 100 per cent list. In Wayne county it is estimated that there are 200 eligible, non-members. As intimated in the January Journal, a splendid campaign is being waged to secure these men as members and it may be predicted that before the close of the year the majority of them will be enrolled.

Again we refer to the tabulated report and note with considerable concern that there are a total of 285 delinquent members. There are 11 societies that neglected to send in their annual report after three requests for such reports had been made. Seven counties held no meetings whatever during the year, three held only one meeting, four only two meetings. These and the other facts revealed by this summarization of the county societies merit more than passing consideration. I await your instructions as to what course to pursue in dealing with this problem of our society.

#### ANNUAL MEETING

No place was designated by the House of Delegates for the holding of our next annual meeting. An invitation was received from the profession of Ingham county. This invitation was referred to the Council with the instruction that the Council be empowered to designate the place and the date for the next annual meeting. The Council's attention is called to this action taken by the House of Delegates.

#### JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

In response to the recommendation in our last report the above committee was organized during the year. Its activities have been reported from time to time in the Journal and today, as you attended the stated meeting of the Committee, you gained an insight as to what it has accomplished and will accomplish during the coming months. The House of Delegates approved these activities and the plans that the committee is developing. This work is an organized activity that cannot be neglected. It is imperative that the work should go forward with greater impetus and this impetus must emanate from the individualistic effort of the doctors of Michigan. To that end I present to you the following request:

1. That the plan, its purpose and its scope be again called to the attention of our county society officers in a special communication signed by the President and Chairman of the Council.

2. That the Council urge upon local county society officers that they inspire and bring about the holding of at least three such public meetings before the summer months.

3. That the Joint Committee be requested to arrange for a combined public meeting in several



of our larger cities and to assign as speakers for these meetings at least three men who will present the selected topics that the Committee may indicate.

The publicity thus attained will be desired and of material benefit to this educational plan. 'Tis no idle challenge which we physicians throw out to the world when we claim that our mission is of the highest and of the noblest kind, not alone in curing disease, but in educating the people in the laws of health, and in preventing the spread of disease. Of late years our record as a body has been more encouraging in its practical results than those of the other learned professions. It is obligatory that we be not distanced. It is not visionary to conclude that in the education of the public in matters pertaining to the science and practice of medicine we possess a movement pregnant with wonderful potentialities.

#### THE TRAINED NURSE PROBLEM

The American Medical Association has a Committee, appointed this year, that is studying the problem of the trained nurse, her education, and her relationship to the public, patient and physician. This Committee will render its report at the San Francisco meeting. During the year this problem has confronted our State Society and particularly in regard to a proposed plan for the establishment of a new nursing school at the University of Michigan. Your officers and representative members, after a conference, issued a pronouncement upon the subject. This was endorsed by fifteen county societies representing 1,809 doctors and must be accepted as their deliberate judgment and opinion.

Subsequently, President Dodge addressed a representative body of nurses and health officials and outlined the profession's viewpoint.

The subject is one of vital interest to the public, our hospitals, the nurses and the medical profession. Our society cannot ignore the situation. It must not neglect participating in the solution that is sought. I do not believe that we are eager to assume a domineering position. Our sole object should and must be to aid in the establishment of a definite plan and policy of nurse training, nursing service and nurse assistance for our hospitals, for the public, for public health activities and for our doctors. We must become active in bringing about a greater, broader and more practical plan for the utilization of a nurse's service. We must likewise discountenance the warping of the services of nurses into channels that are being excavated by would-be uplifters, idealists and mentally distorted individuals who are pursuing a course of activity that is not conducive to perpetuate the accepted relationship of physician and nurse in the eradication or treatment of human ills and defects and our problems of health conservation. All to their own aggrandizement and the people's loss.

It is recommended that the Council authorize the appointment of a Committee by the President to confer with similar committees appointed by our State Hospital Association, States Nurses' Association, State Nurses' Registration Board and State Commission of Health. That our Committee seek the appointment of such committees by these other organizations and bring about the holding of a conference for the purpose of outlining a plan that will inspire uniform support and acceptance in dealing with this important problem. Certainly it is an undertaking that must command our intensive concern and interest.

#### COMMITTEE WORK

President Dodge is to be commended for inviting to this meeting the Chairmen of our Standing

Committees for the purpose of discussing with them the scope and plans of their committee activity. This is not a one-man society, nor does its achievements, its activities, rest alone upon your President, the Council or your Secretary-Editor. That which we seek, the objects of our organization and the enhancement of the welfare of our members as well as acquitting ourselves of our medical responsibilities to the public devolves upon our Committees and our combined membership. The guiding policy and the field directorship must be delegated to the Chairmen of our Standing Committees who merit our support and assistance. It is sincerely hoped that the plan of frequent conferences with them will become an established precedent. The assurance is again repeated that the services of your Secretary are at the command of our Standing Committees. We have ever sought to refrain from causing this office to encroach upon their work, still we are ever ready to accord to them every possible assistance.

#### PUBLIC HEALTH ACTIVITY

The work that is being done by the State Commission of Health and its state and local officials is not a matter that should be permitted to carry on without our intimate association and co-operation. It is essential and proper that we, as a medical organization, should remain at all times familiar with the purposes and scope of the undertakings instituted by these health officials and the State Commission. They impinge and inter-relate with the daily work of our members. The prevention of disease, the reduction of mortality, the enactment and enforcement of health laws and the rules and the conservation of the physical welfare of the infant and school child are and ever will be obligations that must be assumed and participated in by the medical profession. We cannot unconcernedly delegate these responsibilities to state and local officials. We would be more than remiss did we by our disinterestedness hold ourselves aloof from such public health work.

On the one hand it is our duty to become vitally and actively interested in the work of our health officials. On the other hand our health officials must perceive that they cannot attain the desired results without the aid and assistance of the physician. The need for expression of mutual interest and combined labor is paramount.

We are aware that opinions have been expressed regarding the usurpation of the physician's work on the one hand and the physician's negligence, lack of knowledge and failure to assume his full responsibility to the public on the other hand. Such a belligerent attitude cannot, must not be permitted to exist or grow.

It is recommended that the necessary steps be taken that will bring about an affiliation and co-ordination of the physicians and the health departments of this state by the appointment of a conference committee that will secure an inter-relationship and understanding thereby consummating the enrollment of a two-fold force that will be productive of the greatest good in public health work.

#### CONCLUSION

I have no further comments or recommendations. Our society, at the present time is a community of interest that is composed of doctors who we believe are ready to subscribe their efforts to any movement that has for its purpose the attainment of our objects or organization, the advancement of the standards of practice, the rendering of that type of service to which the public is justly entitled and to the enhancement of their individual welfare. It is therefore incumbent upon

us to recognize the trust that has been imposed and to formulate our leadership activity so that it may obtain the subscription of our individual members and component units to attain these ends. In this work we must emphasize at all times and in all places that the medical profession is above all a profession of service to mankind. While, in the interest of the physician, of his family, his fellow physician and his patients, it is his right and duty to exact a monetary return for his labors that is commensurate with the long, expensive period of preparation which has been required of him and the high degree of skill thus acquired and that he makes the most grievous and fatal mistake, if he yields to the spirit of excessive commercialism which is abroad, seemingly in more intensive degree than ever before, and makes "money-taking" his dominant thought.

It is education in regard to this commercial relation to the public that must be inculcated. It is the presentation of his largest avenue of usefulness in the field of the prevention of disease that must be demonstrated and the doctor's increased activity inspired in that field. It is for organized medicine to direct and hold leadership in this department of medicine—that is our paramount problem. It is our bounden duty to bring about the assumption of this obligation by our profession in Michigan and cause it to assume the leadership to which it is rightly entitled in our contact with the public and the elimination of disease.

It is to that end that we pledge our energy and effort, at the same time recording our appreciation for having been permitted to serve as your Secretary-Editor these past eleven years.

The following action was taken on the Secretary-Editor's Annual Report.

1. Annual Meeting. The following telegram was read:

Lansing, Mich., Jan. 16, 1923.

Dr. F. C. Warnshuis,  
Michigan Union Bldg., Ann Arbor, Mich.

My brother's funeral prevents attendance, Lansing Society decided to defer entertaining State Society until we have better hotel accommodations.

L. W. Toles.

Moved by Jackson, supported by DuBois, that the Chairman appoint a Committee of three with power to select the place for the

annual meeting and to designate its date. Carried. The Chairman appointed Jackson, Du Bois and Randall as such Committee.

2. Recommendation in regard to the Joint Committee on Public Education was approved.

3. Recommendation in regard to the Trained Nurse Problem was approved.

4. Financial audit and accounting was accepted.

On motion of DuBois, supported by Clancy, an honorarium of \$100.00 was voted to the Treasurer.

On motion of DuBois, supported by Clancy, the Treasurer was directed to keep the funds of the Medico-Legal Committee and to pay them out on voucher signed in the manner provided by the by-laws.

On motion of DuBois, supported by Clancy, the salary of the Chairman of the Medico-Legal Committee was fixed at \$800.00 for the coming year.

On motion of Jackson, supported by Le Fevre, the Secretary was directed to inform Regent Sawyer in regard to the expressed wishes of the County Societies, Legislative Committee and Council that the University Hospital be again placed under the supervision of the Medical Department of the University and to bring the request before the Regents urging that such action be taken by the Regents.

On motion of Randall, supported by Jackson, the Secretary cast the ballot of the Council for D. E. Welsh as Treasurer for the ensuing year. The Chairman declared Dr. Welsh elected.

On motion of Randall, supported by Du Bois, the Chairman cast the ballot of the Council for F. C. Warnshuis as Secretary-Editor for the ensuing year and declared the election of F. C. Warnshuis to that office.

Adjourned.

F. C. WARNSHUIS,  
Secretary.

## AMERICAN MEDICAL ASSOCIATION ANNUAL MEETING

San Francisco—The Week of June 25th—1923

MAKE YOUR HOTEL RESERVATIONS NOW.

# The Journal

OF THE

## Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

J. B. Jackson, Chairman.....Kalamazoo  
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FEBRUARY, 1923

**Report Malpractice Threats  
Immediately to Doctor F. B.  
Tibbals, 1212 Kresge Bldg.,  
Detroit, Mich.**

### Editorials

#### OPINIONS ON NURSE TRAINING

At present writing (Jan. 1st) fifteen county societies, representing 1809 Michigan doctors have gone on record as opposing the establishment of a new training school for nurses at the University Hospital. The same number of societies and doctors have requested the Regents to return the University Hospital to the control of the Medical Faculty. As our county societies hold their meetings, these resolutions are being adopted and forwarded to the Regents. It is anticipated that every county society will make this request.

The matter is now up to the Regents and we cannot very well perceive how they can ignore these recommendations. It is an expression of opinion that must bear weight, especially, when it is apparent that the opinions arise from physicians who will secure no individual benefit or profit by reason of compliance with the recommendation. The University Hospital and the Medical Department of

the University will be the only beneficiaries. It will increase the efficiency and elevate the administrative policy of the hospital and that is our only desire.

It is not unreasonable and within our right to request Regent Sawyer, by reason of this expression, to bring this question before the Board of Regents and to use his influence to cause this transfer to be authorized. The profession of the state are of the opinion that such action should be taken. It is also hoped that the matter be not delayed and that it will be unnecessary to resort to any other measures to secure the realization of this recommendation. It must be recognized that this is not an idle request and that the profession is widely concerned and emphatically in earnest.

#### SPECIAL TRAIN TO FRISCO—A. M. A. MEETING

##### GOLFERS—ATTENTION!

The 1923 meeting of the American Medical Association is to be held in San Francisco, the week of June 25th. Splendid features are being developed for this meeting. In addition, the call of the west creates an impelling reason for attending this annual meeting. To a certain degree the railroad journey is a tiresome travel unless it is varied and interrupted. For the purpose of relieving the monotony of the railroad trip we presented an itinerary to a transportation company with the request that they outline the details. We are in receipt of a routing and schedule that presents attractive features. It is, in general, as follows:

1. A special, de luxe, private train traveling on special schedule and composed of baggage cars, compartment sleepers, dining cars, club car, club observation car with piano, phonograph, barber, valet and maid. Latest modern equipment and service.

2. The train will leave Chicago, June 17th, at 10 P. M., and reach Frisco at 7:30 A. M. the following Saturday.

3. Each day a stop of 7 to 8 hours will be made at a well known golf course and 18 holes of golf will be played. Tournament matches will be arranged. Time for a shower, etc.

4. The expense will be \$235.00 and includes: return trip railroad ticket, half of a Pullman compartment, all meals enroute, all tips, taxi hire to and from golf clubs, caddy fees, green fees, cleaning of clubs, transportation of clubs and baggage transfer. Only extra is your return Pullman fare and selection may be made of several return routes.

Arrangements have been made for the services of a caddy master, who will look after



your clubs. Automobiles will be waiting on arrival at each stop.

Your wife is welcome, and if she does not play golf, arrangements have been made for her for a sight-seeing automobile trip at each stop. For tennis players, courts will be available. On one day we remain for a dinner dance at a well known tavern.

Here, then, is an attractive trip with a daily opportunity to indulge in your sport hobby. Entertainment will be provided while aboard train enroute. The cost is but \$55.00 more than a regular trip of through travel. For \$55.00 you have a wonderful five days outing on a comfortable de luxe train, and travel with agreeable associates.

If this appeals to you, write us for tentative reservations and further details. Do you want to be counted in? If so, write now and state how many there will be in your party.

F. C. WARNSHUIS.

#### DUES—1923

Your 1923 dues to your local and state society are now due. We urge that you promptly remit them to your county secretary. Please do not delay, or, make it necessary to camp on your trail to collect them. Send in your check today. State society receipts will be mailed as rapidly as it is possible to get them out. We trust that 1923 will be characterized by a prompt payment of your annual dues. Do it now!

#### STATEMENT

When the Publication Committee and the Editor announced, a few issues ago, that they would assume a neutral position in the discussion of the Sheppard-Towner law and would hold the editorial pages of the Journal open for our members to present their views and opinions, the Publication Committee and the Editor were without an expression of the views and wishes of our members. We did not desire to assume the responsibility of formulating the organization's attitude and policy. We were desirous of obtaining an expression and also instructions as to what definite attitude to assume. We felt it would be unjust to cause our personal views to be reflected in the editorial discussion and have them convey the society's position.

The Council has convened since that statement was made. The Publication Committee and the Editor have been instructed to oppose the Sheppard-Towner bill and to acquaint our members with the grounds for opposition. These instructions will be followed. With this

expression of organizational opinion emanating from those members of the Council who represent a majority of our members, thereby imparting their desires and with whose desires the Journal ever attempts to comply, we shall accord such editorial space in this and subsequent issues as to why we, as a profession, should oppose the enabling act that seeks to establish this type of public health officials activity into the domain of our State.

#### THE COUNCIL MEETING

Elsewhere in this issue will be found the minutes of the Annual Meeting of the Council, held in Ann Arbor on January 16 and 17. Our members are urged to read that detailed report as it imparts that which your officers are accomplishing.

The three outstanding features of the Council meeting and upon which there was long, detailed and considerate discussion, were: Legislative Activity, The Sheppard-Towner Law, and Medico-Legal protection.

In regard to legislation and the present session of the legislature we cannot, for obvious reasons, impart the discussion or reveal the details of plans approved. The assurance can be given to our members that we have an efficient committee. Further, that the Chairman of that Committee, Dr. Hume, is alert, on the job and in contact with legislative activity in Lansing. Our interests are being conserved. Our members must, however, if emergencies arise, be in readiness to respond to the calls made for assistance to our Committee.

In regard to the Sheppard-Towner Law the Council declared itself as opposed to the passage of any enabling act that would fasten the shackles of this undesired type of legislation upon the people of Michigan and the medical profession. The Council instructed the legislative committee to oppose the passage of any act that seeks to establish the provisions of this law for Michigan. It was realized that through the activity of the Commissioner of Health temporary application of this law had been established in Michigan and that his department is contemplating to adapt its activities to apply and carry out the intent of that law in Michigan after the enabling act is passed. How this law was temporarily accepted between legislature sessions, the part women are taking, and how they came to take this alleged part, how fictitious "matched appropriations" were juggled, how it is proposed to apply this act, are incidents and activities that form a different story and will be commented upon in due time.

The work of the Medico-Legal Committee

was approved and commended. It was also recognized that in certain parts of the state local conditions are permitted to exist that are inducing malpractice suits. Ways were devised for correcting such undesirable situations.

The presence of President Burton, members of the Medical Faculty of the University, Chairman of our Standing Committees and other guests created a conference group that was of material assistance to the Council in its deliberations. It was the expressed opinion that meeting was one of the most profitable sessions held by the Council.

### SHEPPARD-TOWNER BILL

"Let me write the headlines and I care not who writes the articles, the power to sway people lies with me," said a newspaper man who knew human nature.

"Let me get a bill introduced with headlines of 'General Welfare,' 'Children,' 'Maternity,' 'Women,' and I can get any old appropriation through and can crucify the man who opposes me," says the astute politician, who also knows human nature.

It is time the practicing physician ceased being a neuter in state affairs. It is time that he notified the self-seekers, the professional well-farers and the political sanitarians, whoever and whatever they may be, that he is a force to be reckoned with, not a lump of putty to be molded to their wishes. The latest compliment paid the working physician is to place him in the high rank of "First Aid" to the Sanitarian. He is classed with the bright boy and girl scouts, when compared in importance with the Sanitary Engineer. It is all right for the physician to work 20 hours at a stretch; to go out on a zero night at 2 a. m.—to work holidays and Sundays—that is first aid, while his overlord, the Sanitarian, rests comfortably—cuts out his telephone, if it is too insistent; notifies one and all that office hours are 10 to 12 and 2 to 4—office closed on Sunday and holidays and at noon Saturday—with a good vacation season for rest and recuperation—with varied trips throughout the country for conferences. As one hard working physician put it, "We can go into the thick of the fight with a contagious disease in a sick room, while the Sanitarian pastes up his placards secure and safe on the outside." The physician is all right to make a decision which will spell life or death to a patient, but, when he asks for the power which should go with such responsibility he is scoffed at.

The Sanitarian has a place and a very important place in the medical sphere, but he

should not attempt to control the policies of the entire medical profession.

Time and again attention has been called to the fact that medicine is regarded as the entering wedge for socialism. Mr. Towner of the famous Sheppard-Towner Bill is said to be a lawyer and an authority on constitutional law. Why does not this shoemaker stick to his last? Surely there are thousands of widows and orphans who have been defrauded by unscrupulous lawyers—think of the suffering that has been entailed by losses of money by helpless ones, but we do not find a Sheppard-Towner Bill fighting for them. No, you find him attacking medicine—seeking to invade the sanctity of every home in the country—trying to place a colossal burden of tax on a people. Why? The answer is plain—to break down the constitutional dam which is all that stands between the people of the country and an autocracy.

Foiled on the Socialization of Medicine, the socializers seem to have found a splendid battering ram against constitutional rights in the so-called Sheppard-Towner Bill. Rock-bound New England, which produced John Quincy Adams, the man who dared, at the risk of his life, introduce into the congress of the United States a petition from a negro slave, is up in arms against this measure. The attorney general of Massachusetts has filed a bill to test the constitutionality of this bill in the Supreme Court of the United States.

What is this Sheppard-Towner Bill? It is called "an act for the promotion of the Welfare and Hygiene of Maternity and Infancy and for other purposes." The power is vested in a "Board of Maternity and Infant Hygiene." Its members are Grace Abbott, Chief of the Children's Bureau, Department of Labor; Hugh S. Cummings, (a citizen of Virginia) Surgeon General of the United States Public Health Service, and John J. Tigert, (a citizen of Kentucky), who is United States Commissioner of Education. This bill appropriates one million, four hundred and eighty thousand dollars for the fiscal year, ending June 30th, 1922, and the sum of one million, two hundred and forty thousand dollars for five years thereafter. Of this sum, \$50,000 is allowed the Bureau yearly for expenses, traveling, salaries, etc. The remainder is to be divided on a fifty-fifty basis between the several states who elect to accept its provisions and the United States Government. In accepting the terms, the State agrees to provide a certain sum for the purposes of the bill and provided the States do what the Bureau thinks right and proper, the United States will furnish a like sum. If the Bureau for any reason should not approve of

what the state does, it "can withhold the certificate authorizing payment to such state of the amount to which it is entitled."

The Massachusetts Bill filed by her Attorney General, says the plaintiff (Massachusetts) is informed and therefore avers that legislation by Congress, by which appropriations are made of funds to be paid for objects which are NOT NATIONAL but LOCAL, to those states which accept such appropriations and themselves appropriate equal amounts to be expended under the direction of some Federal Board, commonly designated "Federal Aid" legislation, *has been found or is believed to be an effective means of inducing States to yield a portion of their sovereign rights for the consideration offered; that unless checked by the Supreme Court on the ground of unconstitutionality no limit can be foreseen to the amounts which may be thus expended for matters of local concern, by statutes providing for the establishment of large federal bureaus with many officers for the performance of duties which are entirely beyond the authority conferred upon the United States by the Constitution.*"

This is what Massachusetts thinks of the Sheppard-Towner Bill as a menace to the liberties of the people of the United States.

This is what the governor of the State of Maine said in refusing to submit to the terms of the bill.

"The State of Maine will not sell its birth-right and principle, not expediency, has been the determining factor with me in the solution of this problem. The proffered five thousand dollars has been referred to as a free gift to the State of Maine, while in reality, the federal government is taxing the state to raise this money; and now in order to help our mothers and children, offers to pay back to the state, the trivial sum of less than two-thirds of one cent for each inhabitant. The people of Maine are willing and able to care for their own mothers and children and I have faith to believe that Maine men and women will do this rather than accept so-called gratuities from a Federal Bureau. Already we are overburdened with Federal interference and control and our citizens and industries are hampered by Federal inspectors and other officials from Washington. There is grave doubt as to whether or not the governor of a state has the power to accept the bill in question, even though Congress attempts to confer that power upon him. The governor of a state does not derive his authority from the federal government and a Federal Bill that seeks to confer new powers upon him is of questionable standing.

*"It is apparent that the present bill is but an entering wedge for more radical legislation and*

*Maine's delegation in Congress, our Senators and Representatives should be urged to resist all further encroachment by the Federal Government. We should not encourage the centralization of power in Washington."*

Five years more of such legislation, unchecked by the Supreme Court, and this country will present a spectacle of bureaucracy that will put Germany to shame and will be sweating under taxes which would make Nero green with envy. It will mean great armies of state paid officials—it will mean elections wholly in the hands of state paid servants and in the end it will mean the downfall of the republic, and if you doubt it, read your history.

This is what the Sheppard-Towner Bill means to every citizen of the State.

This bill is touted as the last note in welfare. Let us see what it will give to the twice-taxed citizen. This is what the Massachusetts Civic Alliance says it is:

"An anomalous bill which requires the states to establish extension course of lectures and consultation centers, but forbids the renting or purchase of any building in which to hold them. It employs nurses, but not for nursing. Its title pretends that it is for the public protection of infants, but the bill naively provides a method of protecting infants from its ministrations. It is for mothers, but it overlooks pregnant women and expectant mothers. *It is for child bearing, but provides neither doctor, nurse nor midwife for obstetrics. It is advanced on the claim that it will reduce deaths of mothers and infants, but it makes no medical provision and employs no physician. What then is its object?"*

To which we of Michigan can answer: It is a bill which claims to have the support of a majority of the Womens' Clubs, and yet it is safe to wager that not one woman in five hundred of the club members whose endorsement is claimed knows more of the bill than its title—headlines, if you please. We will go further and say that it is safe to wager that not one in ten of the officers of the clubs can state clearly the provisions of the bill. The headlines are working with telling effect—Welfare—Getting something for nothing. We can go still further and say in all truth that it is simply another raid on the supposedly weak part of the body politic, the medical profession, and by making a break in the dam at this point, in the name of alleged suffering humanity, the whole dam will go out and the country can be socialized and sovietized to the very limit.

This Sheppard-Towner Bill is a joke, albeit a serious one. It provides millions that more or less well trained individuals may go forth to lecture and hold conversations with expect-



ant mothers. These conversations are well illustrated in a story in the January Atlantic. The state conversationalist met the needs of a widowed mother with a tubercular child in this fashion.

"Well, surely, the company wont want to keep all of you here, for your debt. At the worst, they will take some of your bedding to pay for it. And there may be a heavy run of oysters. And thank you very much for giving me this information. Would you mind, if I look over this card, to see that I haven't forgotten anything? I am supposed to have an answer for every question." Mrs. Kazalski did not accuse her of indifference. She was scarcely conscious of Miss Egmont. Miss Egmont stayed a few minutes longer to get in detail the earnings of each member of the family since their coming, and the hours of work. Presently she left, HOPING things would go better, HOPING Katie would improve, suggesting a clinic at Baltimore, and then Mrs. Kazalski went back to her wash tub.

In a nut shell, the widow with the sick child could go to the doctors for free service, while the conversationalist got her questions answered and drew her pay for eight hours' work.

The Sheppard-Towner bill furnishes ample funds for these conversations, but it gives nothing else. It will not give the services of a physician—it will not provide for nursing—it will not provide for medicine—it will not provide for a bit of clothing for an infant—but it does provide good salaries and ample leisure for holders of conversations.

The State Health Commissioner has notified Michigan physicians that he has already elected to come under the provisions of the bill—he went further and asked that no publicity be given in the State Journal on the Sheppard-Towner bill, fearing it might hurt other health legislation. There is food for thought for the practicing physician in this. Is his State Society to be controlled by the Health Commissioner—is his wishes to govern the attitude of the official Journal? The Council of the State Society has met the issue in no uncertain way. Its Committees have been instructed to go out and fight—to tell the people of the State of Michigan what a menace this proposed bill is to their liberties.

It is time the issue was squarely drawn. For years, the physicians have been the butt of every uplifter and welfarer. It is time to give the lie to the cry that we fight only in behalf of our purse. For every fraction of a welfarer who works without money and without price, saving as notoriety is a price—you will find tens of thousands of working physicians who

give their time—give their money and give of themselves to the work of helping suffering humanity. They give without money and without price, without even the praise of the public, for the publicity which is life to the uplifter is professional death to the ethical physician.

As a measure, the Sheppard-Towner bill, with its empty promises is to make one smile. But to the citizen, the Sheppard-Towner bill with its untold possibilities for centralized power for bureaucratic control—for taxes piled on taxes for the benefit of the office holder at the expense of the worker—is a menace which should be met and wiped out.

George E. Frothingham,  
Chairman, Committee on Civic  
and Industrial Relations.

### *Editorial Comments*

Insulin is not a specific for diabetes. It is an advancement in therapeutics, but insulin alone will never supplant careful dietary regulation.

The council appointed a committee empowered to select a place and designate the time for the holding of our next annual meeting. On account of the American Medical meeting in San Francisco the week of June 25th, the time required to attend that meeting it is proposed to hold our annual meeting in September. Definite announcement will be made next month. Section Secretaries are requesting that those desirous of reading papers before a section communicate with the secretary of the section in which they are interested.

The Council of the Wayne County Medical Society went on record in regard to health officers' activities as follows:

"That we are opposed to increased public health activities except as they refer to contagious diseases and dangerous to public health," and;

"That any increased public health activities have not increased the practices of physicians," and;

"That we are not in favor of the establishment of full time county health officers for all counties throughout the state."

A good, reliable investment banker does not deal in stocks, promotion schemes and other unsafe securities. His integrity and ethics must attain an accepted standard set forth by a national organization and if they are of such standard he is a member of the national organization. Let us impress this upon all doctors. Knowing this, if you have funds to invest, you will financially profit if you follow their advice. Avoid and have no dealings with the solicitors that call on you with schemes for large profits and easy money.

At Holland, a year ago the traveling clinic held forth. People were urged to come in and be examined. The statement was made that reports on examination would be sent to the family physician. These reports were not sent. People examined would call on their family doctor and ask if he had heard from the state regarding their examination. The doctor was without these reports and so could only answer no. Just an incident, but does

it not prophesy what can be expected of such official controlled clinics?

This year the clinic again was booked for Holland. On a certain day when children were to be examined the State Physician was ill and could not conduct the clinic examinations. Was the clinic postponed? No. The state nurse posed as a doctor and she made the examinations. This same nurse was introduced as a doctor at a noon luncheon club that met that day. We wonder how we can maintain faith when such practices are indulged in. Are the interests of doctors being conserved?

In 1922, the deaths of 2,513 physicians was recorded. This is equivalent to an annual death rate of 17.73 per thousand. Five hundred and thirty-six occurred between the ages of 51 and 60; 66 between the ages of 60 and 70, and 531 between 70 and 80. The greatest number occurred at the age of 66. Diseases were: Heart, 509; general, 344; cancer, 154; diabetes, 39; septicemia, 37; tuberculosis, 21; pneumonia, 180; cerebral hemorrhage, 234; nephritis, 125; senility, 456. Think it over. Some of the causes are preventable—do you care to make the effort?

At the Council meeting the discussion was directed toward activities of the State Health Commission. It seems to be the policy of the Commission to secure the addresses of newly married couples and to send them a series of letters congratulating them on their marriage, then that they undoubtedly look forward to a family, and urges the mother to join a local mothers' club, then if pregnant, to go and be examined at a pre natal clinic, and finally when the baby comes, to take the child to an infant clinic. Dr. Reuben Petersen, in citing this letter scheme, suggested that the Commission had possibly lost sight of another opportunity in this letter scheme and suggested that after the baby came the mother should be sent a letter and urged to join a "Laceration Club."

We cannot quite conceive the fairness and justification of this letter scheme. It is state interference and state influence seeking to herd the public into clinic channels and corral them for the clinic, state paid physicians. No, they say they don't treat, but only examine—but do they?

A pointed criticism may be recorded against physicians as a whole on account of their tendency toward unsystematic and superficial reading. Medical publications seek to keep doctors abreast with medical progress. Emphasis is laid upon proven theories and details of treatment that achieve greater and better results. One would think that when such authoritative information is imparted the active progressive man would adopt and apply these newer methods. Many do, for as a rule we are not all "rut" travelers. On the other hand we doubt that the census of "rut" travelers is small. Illustrative of which we recite a recent incident. At a county society meeting with some 22 doctors present, the discussion of the preventative treatment of goitre was engaged in. The work of Marine and Kimball was retold. Not one of those present knew anything about it. We have drawn attention to this treatment on several occasions. We also had a symposium on it at our Flint meeting. The papers of Crile and Kimball were published in The Journal. Notwithstanding, here is a group of 22 men who were entirely ignorant on the subject. It is one of the most important advancements in the treatment of goitre. It is a most effective preventative measure. Every doctor should be familiar with it and institute this treatment

amongst his patients. They are entitled to it. We wonder how many doctors in Michigan are equally ignorant on the subject. They need not be if they will but allot some time each day and thus pursue a systematic course of reading that will keep them informed in regard to the progress that is being made. This ignorance does not exist in regard to goitres alone. The State Commissioner of Health can recite many appalling incidents. We plan on publishing them at a future date.

#### SHEPPARD-TOWNER LAW

The Sheppard-Towner law is opposed and it's institution in Michigan is objected to for the following reasons:

1. It is a type of undesired "state medicine," state medicine being defined by the House of Delegates of the A. M. A. as: "Any form of medical treatment provided, conducted, controlled or subsidized by the federal or any state government, excepting such services as is provided by the army, navy or public health service, and that which is necessitated for the control of communicable disease, the treatment of mental disease, or of the indigent sick."

This proposed law conflicts with this definition in that provisions are made that the funds will be controlled and expenditures directed by the Federal Bureau of Labor. Further, that the law provides advice, examination, and supervision of the pregnant mother and thus conflicts with the given definition.

2. It is an invasion by the Federal government of the privileges, immunities and duties of states.

3. It unjustly and inequitably taxes the people of some states for the benefit of other states.

4. It interferes with the sovereign rights of states to regulate their own laws of practice.

5. There is no need for state care of pregnant mothers as records show that of the births in the state, only a small percentage are without medical care.

6. Because it calls for appropriation of extra funds and directs that funds available, both from state and federal source, are disbursed under control and approval of the Federal Bureau of Labor. That this Bureau can direct the scope and extent of medical examinations and activity in any state. That once established, it's demands will undoubtedly extend the activities of this department and increasingly invade the homes of pregnant mothers and encroach through wider application upon the privacy of our American home.

7. Because it may be confidently expected that once such a type of legislation becomes established it will with increasing rapidity extend further into the domains of medical practice.

8. Because it is beyond the function, purpose and field of State Health Departments and Health officials to enter into the practice of medicine in fields other than those of contagious disease.

9. Because our Health Commission has utilized state paid individuals as propagandists to obtain an apparent demand by the public for this type of legislation and foisted it upon the public in between legislative sessions without affording the profession an opportunity to present its objections to the governor. It did not consider or concern itself about the profession or their opinions. It did not announce its intent of securing the institution of this law. On the other hand, it quietly slipped the scheme across.

10. The writing and enactment of this law was inspired and pressed by Hearst and a certain Mr. Rosenthal. It was opposed by the Surgeon-General of the U. S. Public Health Service. Political pressure was brought to bear upon the Surgeon-



General and the administration of the law was assigned to the Bureau of Labor. Can't you imagine why? It is not a request from organized labor.

11. It's enactment will enable health officials to further invade American homes and fasten it's tentacles upon the people, compelling them to relinquish their right to freedom in the matter of consulting those who they prefer regarding their physical welfare. This is the tendency of modern health officers who have already publicly proclaimed that "The child is the property of the state."

12. Because experiences in England assure us that whereas the initial financial appropriation is reasonably small, a few years of administration increased the financial requirements several hundred-fold over the first appropriation. It may be confidently predicted that the providing of such a large fund by direct taxation is an unwarranted burden upon the public. The present legislature is requested to provide some \$759,000 for the use of the Commission of Health. If this law is enacted the administration of it will witness a request to our next legislature of not less than a million dollars for the expenses of the Health Commission. Are we receiving commensurate value today?

In formulating one's opinion in regard to this law the above points are submitted to our members for their reflection. There are other objectionable features to this law which will be presented in due course.

## Correspondence

January 19, 1923.

My Dear Doctor Sawyer:

At the mid-winter session of the Council of the Michigan State Medical Society, held in Ann Arbor, January 16th and 17th, the attention of the Council was directed to the resolutions passed by our component county societies recommending and requesting that the Regents take the necessary action to secure the return of the University Hospital to the control of the Medical Faculty of the University.

It was noted that these resolutions and requests emanated from the majority of our County Societies and represent the expressed recommendations and requests from some 2,100 doctors, residents and tax payers of Michigan. It was further felt that the relationship of the profession with the University Hospital could not be co-operative, cordial and satisfactory under the present method of directorship and management. That under the present situation the University Hospital is not serving the people of Michigan, the Medical Department of the University, the students and the profession of Michigan to that degree of efficiency and service as these parties are deserving of and entitled to.

The Council therefore cordially and earnestly requests that you, as Regent, cause these resolutions to be called to the attention of the Board of Regents at their next meeting and by the introduction of the proper motion or resolution secure the granting of the prayer of the petitioners.

I will be appreciative if you will enlighten me as to the action taken in order that I may be able to advise the Council and our members.

Yours very truly,  
F. C. Warnshuis, Secretary-Editor.

The Editor of the Journal of the Michigan State Medical Society:

I have your communication of January 19th. It is quite uncertain whether I shall be able to attend the next meeting of the Board of Regents;

however, I will bring the request of the Council to the attention of the Board at the earliest opportunity.

With kindest regards, I am,

Yours sincerely,

WALTER H. SAWYER.

The Editor of the Journal of the Michigan State Medical Society:

I note in the recent (January) issue of the Journal that you emphasize the address of Dr. Jas. E. Davis in which he pointed out the need for Post-Graduate work in Detroit for physicians.

It may interest our members to know that we have in the Department of Anatomy just completed a course of Post-Graduate work.

The class consisted of twenty of the prominent ear, nose and throat specialists who are practicing in Detroit. The course extended over a period of six weeks, the class met twice a week. In addition to the lectures and demonstrations, which were twice a week, each two members were provided with a head, face and neck for dissections and operations.

The course was one of the practical application of the structure and function of the head, face and neck. The lectures were illustrated by photographs, microscopic slides and dissected specimens.

The students were able to see and study all the structures discussed and their significance was further emphasized by pointing out their clinical bearings. The anatomy and physiology of the ear, eye, nose, mouth, pharynx, larynx and nervous were covered in a complete practical way.

Over a dozen human heads were used for demonstration purposes.

That the course was appreciated and considered of value was evidenced by the perfect attendance record of the members, their interest and enthusiasm. These same men have requested that they be informed, should the course be repeated, since they feel it would be well worth while for them to take such a course annually.

It is our policy in this Department to provide such courses for practitioners of surgery and medicine. We have the materials, space and equipment for the giving of courses in Anatomy bearing upon any branch of medicine or surgery.

We are now planning on beginning another course on the eye, ear, nose and throat in the near future. A course on the pathology of these parts is being given by the Department of Pathology.

With these courses, those at the Woman's Hospital and elsewhere, there exists in Detroit the elements essential to the establishment of a Post-Graduate School of Medicine here. All that remains to be done is for some one or some group of men to get together and organize the school along lines similar to those of other Post-Graduate Schools.

I write you at this length because it may be that there are readers of the Journal who may be seeking just the sort of work that we are doing in this department.

Yours fraternally,  
C. F. McClintic,  
Director, Department of Anatomy.

## State News Notes

### COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

The Society of American Bacteriologists held its annual convention in Detroit, Dec. 28-30, 1922.



The American Dermatological Association held its annual meeting in Ann Arbor, Jan. 7-9, 1923.

Dr. Herbert A. Brady and Miss Elizabeth M. Goble of Grand Rapids were married Jan. 10th, 1923.

Colonel Angus McLean of Detroit, chief surgeon of the 16th corps, has been awarded a distinguished service medal.

The next annual meeting of the American Gynecological Society will be held at Hot Springs, Va., May 21-23, 1923.

Dr. F. G. Novy of Ann Arbor read a paper on "Louis Pasteur" before the Wayne County Medical Society, January 8, 1923.

For the third successive year, Dr. C. G. Jennings entertained the Detroit Academy of Medicine at his home New Year's afternoon.

Dr. H. L. Begle read a paper on "Hysterical Amaurosis" before the Detroit Ophthalmological and Otological Club, January 10, 1923.

The next congress on Medical Education, Licensure, Public Health and Hospitals, will be held in the Congress Hotel, Chicago, March 5-7, 1923.

Dr. L. M. Warfield of Ann Arbor read a paper on "The Significance of Hyper-Tension" before the Detroit Academy of Medicine, January 9, 1923.

The J. William White Surgical Pavilion of the University of Pennsylvania Hospital was dedicated Dec. 14, 1922. It was erected at a cost of \$1,000,000.

Doctors W. J. Anderson, M. F. Dockery and A. Holmboe announce that they have opened new offices in Iron Mountain at 206 E. Hughitt street.

Major-General Leonard Wood has resigned the office of Provost of the University of Pennsylvania in order to remain Governor-General of the Philippines.

F. O. Logic of Iron Mountain, a chiropractic, was arrested, convicted and sentenced to serve 90 days in jail on a charge of violation of the medical practice act.

Professor Warren P. Lombard, for 31 years professor of physiology at the University of Michigan, resigned recently in order to devote his time to research.

Peter Kanss, an itinerant practitioner, was arrested recently in Detroit for practicing medicine without being registered. He pleaded guilty and was fined \$100.

At the Dec. 18, 1922 meeting of the Council of the Wayne County Medical Society, Dr. W. C. Stevens was elected to the honorary membership in that society.

Dr. Rollin H. Stevens of Detroit was elected president for 1924 of the Radiological Society of North America at its annual meeting, held in Detroit, Dec. 7, 1922.

The Michigan State Department of Health will give through the radio from Lansing, a series of short talks of a non-professional nature on health in this state, every Thursday evening.

Doctors Gordon H. Bahlman and Arthur M. Moll, of Flint, sailed for Europe on the S. S. Homeric on the 9th inst. to do post graduate work at Vienna and other continental medical centers.

At a special meeting of the Wayne County Medical Society, held Jan. 3, 1923, Dr. Maude Slyce demonstrated the results of 12 years' study on the heredity of spontaneous cancer in mice.

Dr. Robert Barany of Sweden gave an address before the Wayne County Medical Society Dec. 18, 1922, on "What the General Practitioner Should Know About Vestibular Apparatus."

Professor Robert Barany of the University of Upsala, Sweden, gave a post-graduate course of ten lectures in Detroit, Dec. 15-23, 1922. About forty Detroit physicians took this course.

Dr. Donald P. Osborne of Kalamazoo has returned from Jamaica, where he spent several weeks on vacation. While there he made a study of some of the diseases peculiar to that climate.

Henry F. Vaughan, Commissioner of Health of Detroit, was recently appointed editor of the American Journal of Public Health by the executive board of the American Public Health Association.

During the last fiscal year, the laboratories of the Michigan Department of Health sent out \$60,000 worth of antitoxin. The contract price for the same, formerly made to cities, would have been \$412,800.

Dr. and Mrs. Oscar LeSeure spent their holidays in Detroit. Dr. LeSeure retired from practice some time ago and moved to his farm in Liberty, N. Y. The doctor was for many years one of Detroit's leading physicians.

The Grosse Pointe village home of Dr. W. R. Parker of Detroit (about completed) was completely destroyed by fire Dec. 18, 1922. Dr. Parker and family expected to move into this building Dec. 21, 1922.

The Detroit Academy of Medicine met at the office of Dr. Evans, Dec. 12, 1922. Dr. Reynolds showed X-Ray plates of tumors of the brain and Dr. W. A. Evans, X-Ray plates of pelvic pneumoperitoneum cases and tumors of bone.

Dr. H. P. Poston read a paper on "Perineal Prostatectomy" and Dr. G. V. Brown read one on "The study of the Genito-Urinary System in the Fetus" before the Highland Park Physicians' Club, Dec. 2, 1922.

The annual meeting of the American Student Health Association was held at Columbia University, New York, Dec. 26, 1922, under the presidency of Dr. John Sundwall, Professor of Hygiene and Public Health in the University of Michigan.

The second annual conference of the Health Officers and Public Health Nurses was held in Lansing Dec. 4-7, 1922. Dr. Guy L. Kiefer of Detroit, presided at the Dec. 6 meeting and Henry F. Vaughan of Detroit, at the Dec. 7 meeting.

Dr. Donald Rockwell, son of Dr. A. H. Rockwell of Kalamazoo, has completed his course at the Mayo Clinic, and located in Kalamazoo, associating himself with Dr. E. P. Wilbur, and limiting his practice to eye, ear, nose and throat.

The annual meeting of the Highland Park Physicians' Club was held Dec. 2, 1922. The following officers were elected: Dr. W. B. Wallace, president; Dr. E. L. Chapman, vice-president; Dr. L. C. Piper, secretary; and Dr. H. J. Butler, treasurer.

Dr. Della P. Pierce, for many years one of Kalamazoo's most respected physicians, has accepted a position as house doctor in a private sanitarium in New York state, and will take up her duties there in the near future. A dinner was given in her honor at the Park-American Hotel on January 15.

During the first eleven months of 1922, measles caused nearly as many deaths in Detroit as diphtheria, twice as many as whooping cough, and five times as many as scarlet fever. This high mortality from measles occurs but once in three or four years and not annually.

Dr. Victor C. Vaughan gave a public address Dec. 6, 1922, in Madison, Wisconsin, in commemoration of the 100th anniversary of the birth of Louis Pasteur and on Dec. 14, 1922 he took part in the program commemorating the centenaries of Pasteur and Mendel at St. Louis University.

Plans for the Albert Merritt Billings Memorial Hospital for the University of Chicago have been completed. It will occupy a city block. The hospital has a fund of \$1,100,000 for construction purposes. Dr. Frank Billings has donated a medical library and Mr. and Mrs. Epstein have given \$100,000 for a dispensary.

The Detroit Society of Neurology and Psychiatry met Dec. 14, 1922, at the State Psychopathic Hospital, Ann Arbor. Doctors A. M. Barrett, D. R. Clark, A. L. Jacoby and Nellie Perkins gave a symposium on "The Problems of the Abnormal Juvenile," and Dr. J. L. Garvey presented a clinical program on "Family Periodic Paralysis."

William A. Habermas, now at 107 John R street, wishes to announce that after the first day of Jan., 1923, he will be in his new home in the Charlevoix building, at the intersection of Elizabeth street and Park boulevard. Added facilities will make possible an even more personal service to a rapidly increasing clientele. A very complete line of physicians and surgeons supplies will be on display, subject to your approval.

Through the direction of Dr. Slemons, health officer, a goitre survey of the pupils of Grand Rapids public and high schools has been made. The statistics will be available in February. On January 11th a public meeting was sponsored by the Kent County Medical Society and was addressed by Dr. O. P. Kimball of Cleveland, who talked on Goitre Prevention before an audience of 1,000 people. It is proposed to introduce the prophylactic iodine treatment of goitre in the public schools of Grand Rapids.

Dr. Joseph Charest, a registered physician of Minnesota, convicted last June in Detroit for practicing medicine without a license, applied to the Supreme Court for mandamus to compel the Medical Board to indorse his Minnesota medical license. His application to the Michigan board had been refused for the reason that his college of graduation was not an accredited medical college in Michigan, and also for the reason that he had violated the Medical Act by practicing in the state prior to registration. His application for man-

damus was recently vacated and he has returned to Minnesota.

## County Society News

### JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

OFFICIAL MINUTES,  
MEETING OF JANUARY 16, 1923

1. Pursuant to the call, the stated meeting of the Joint Committee on Public Health Education was held in the Michigan Union, Ann Arbor, on January 16, 1923, at 12:15 m., with President Burton presiding and the following members present: Dodge, DuBois, Henderson, McCracken, Frothingham, McLean, Sundwall, Huber, Biddle, Cabot, Elliott, Warnshuis. In addition there were present Doctors Seeley, Welsh, Jackson, Clancy, Randall, Hume and LeFevre.

2. Minutes of the last meeting were approved as read.

3. President Burton reported that he had arranged a conference of Presidents of Michigan Colleges to be held on January 18th and that he would at that meeting take up the question of Health Education Lectures in Michigan Colleges.

4. Dr. Henderson reported that a total of 151 lectures had been assigned and that of that number some 36 had been already delivered.

5. Copy for the second edition of the Bulletin was reviewed and approved for publication and distribution.

6. The Committee on Speakers and Topics was authorized to insert such changes or amendments to the Bulletin as might become expedient.

7. Motion was made that the Chairman appoint a subcommittee to consider the inviting of other organizations to affiliate with and have representation upon the Joint Committee. Chairman Burton appointed Dodge, Cabot and Warnshuis to act as such a Committee.

8. Meeting adjourned to meet in Detroit on April 17, 1923, at 6 p. m.

F. C. Warnshuis, Secretary.

### HILLSDALE COUNTY

#### REPORT OF ANNUAL MEETING, JAN. 9, 1923

The annual meeting of the Hillsdale County Medical Society, held at the Mitchell Library at Hillsdale.

The President, Dr. G. R. Hanke, in the chair.

After the reading of the minutes of the previous meeting, the President gave his annual address, "Potter's Podalic Version." This was a clear and most interesting presentation of this new system of obstetrical procedure and was listened to with absorbing interest. Discussed by Dr. Sawyer and others.

The Society then listened to Dr. Louis J. Hirshman of Detroit on, "The Present Status of Regional Anesthesia in Ano-Rectal Surgery," a masterly address on an important subject fully illustrated by lantern slides and discussing incidentally, much of the technic of this class of operations and the pathology, diagnosis and treatment of these important cases. This interesting and important address was discussed by Dr. B. F. Green of Hillsdale, followed by Dr. O. G. McFarland of North Adams, and some general discussion. It was listened to with intense interest and after the discussion a vote of thanks

was tendered Dr. Hirshman for his instructive address.

Result of election of officers for the ensuing year:

Dr. C. T. Bower, Hillsdale, President.

Dr. E. C. Bechtol, Montgomery, Vice President.

Dr. D. W. Fenton, Reading, Secretary-Treasurer.

Under the head of "Miscellaneous Business" the Secretary requested Dr. W. H. Sawyer, one of the Regents of the University, who is a member of this Society, to give us "The Present Status of Proposed New Training School for Nurses" at the University of Michigan, as recommended by the "Winslow Committee."

Dr. Sawyer assured the Society that "No favorable action is contemplated on the proposition at this time by the Board of Regents or President Burton, and the discussion is considered closed."

Applications for membership of Doctors H. M. Warren of Jonesville, J. L. Quigley of Waldron, and John S. Sterling of Jerome. All were elected to membership.

Adjourned.

D. W. Fenton, Secretary-Treasurer.

### MECOSTA COUNTY

On Dec. 22, 1922, Mecosta Medical Society met at the office of the secretary, D. MacIntyre, M. D., Big Rapids, Michigan. After the usual business session the following officers were elected:

President, L. E. Kelsey, M. D., Lakeview, Mich.; first vice president, Jno. L. Burkart, M. D., Big Rapids, Mich.; second vice president, A. O. Miller, M. D., Reed City, Mich.; secretary and treasurer, D. MacIntyre, M. D., Big Rapids, Mich.; legal advisor, G. H. Lynch, M. D., Big Rapids, Mich.; delegate to state society, G. H. Yeo, M. D., Big Rapids, Mich.; alternate to state society, J. B. Campbell, M. D., Big Rapids, Mich.

D. MAC INTYRE, Secretary.

### SHIWASSEE COUNTY

The annual election of officers of Shiawassee County Medical Society was held at a meeting on Jan. 2, 1923, at the Memorial Hospital in Owosso, and the following were elected for the ensuing year: President, Dr. G. B. Wade, Laingsburg; vice president, Dr. L. F. Rice, Owosso; secretary, Dr. W. E. Ward, Owosso; delegate, Dr. G. L. G. Cramer, Owosso; Medico-legal representative, Dr. A. M. Hume, Owosso; board of directors, Dr. W. T. Parker, Owosso, Dr. L. M. Cudworth, Perry, Dr. G. T. Soule, Henderson.

A discussion of the matter of establishing a separate department for nurses' training in the University Hospital was taken up. After a thorough discussion of the subject, and presentation of arguments pro and con, the society, by unanimous vote, disapproved of the proposed establishing of such a department.

It was the opinion of the members of the society that the pressing need of the people is for a larger number of more competent bedside nurses, rather than public health and administrative nurses, such as the projected department would turn out.

The society also approved of the plan of placing the University Hospital under the control of the Medical faculty, instead of remaining under independent control as now exists.

W. E. WARD, Secretary-Treasurer.

### BAY COUNTY

The annual meeting of the Bay County Medical Society was held Monday evening, Dec. 11, at the Wenonah Hotel. Dr. Zarembo, the retiring president, gave a complimentary banquet to the society and introduced as the speaker of the evening Rev.

Fr. Krakowski of Bay City. His address on "The Professions" was both inspiring and interesting.

The election of officers followed with Dr. E. C. Warren, president; Dr. Mary Williams, vice president; Dr. L. Fernald Foster, re-elected secretary-treasurer; Dr. A. W. Herrick, Medico-legal chairman.

The secretary-treasurer's report for the year showed a most successful year, both as to meetings and financial standing of the society.

L. FERNALD FOSTER, Secretary.

### KALAMAZOO-ALLEGAN - VAN BUREN COUNTY

The annual meeting of the Kalamazoo Academy of Medicine was held Tuesday, Dec. 19, 1922. An all-day session was observed. Beginning in the morning at 9 a. m., a clinical program was offered under the direction of the Clinical Program Committee in the Old Borgess Hospital. The clinics included Diagnosis and X-Ray, Internal Medicine and Neurology; Eye, Ear, Nose and Throat; General Surgery, and Pediatrics.

At 2 p. m., the business meeting and election of officers was held. The following officers were elected for 1923:

President, Dr. L. H. Stewart, Kalamazoo.

Vice president, Dr. U. S. Gregg, Kalamazoo.

Second vice president, Dr. A. L. Van Horn, Otsego.

Third vice president, Dr. W. R. Young, Lawton.

Secretary, Dr. W. G. Hoebeke, Kalamazoo.

Treasurer, Dr. L. J. Crum, Kalamazoo.

Councilor, Dr. J. B. Jackson, Kalamazoo.

Librarian, Dr. C. A. Youngs, Kalamazoo.

Board of Censors, Dr. G. D. Carnes, South Haven; Dr. R. E. Balch, Kalamazoo.

Delegates to State Society, Dr. A. W. Crane, Kalamazoo; Dr. B. A. Shepard, Kalamazoo; Dr. W. E. Collins, Kalamazoo.

Alternates to State Society, Dr. J. C. Maxwell, PawPaw; Dr. W. O. Vaughn, Plainwell; Dr. R. A. Morter, Kalamazoo.

The scientific program of the afternoon consisted of an exaugural address by the retiring president, Dr. B. A. Shepard, who spoke upon "Physical Methods of Eliciting Pathological Changes in the Chest." Dr. Charles B. Reed of Chicago, delivered an interesting paper upon "The Post-Mature Child."

The annual banquet of the Academy was held at the Hotel Burdick at 6 p. m. Following the banquet a public meeting was held in the ballroom of the hotel. Dr. Reed addressed the audience upon the subject, "What Can Be Accomplished by Prenatal Care."

All the meetings of the day were well attended.

W. G. Hoebeke, Secretary.

### CALHOUN COUNTY

#### MINUTES OF ANNUAL MEETING

In the absence of the President, the Forty-sixth Annual Meeting of the Calhoun County Medical Society was called to order by Vice President Zelinsky in the bridge room, Post Tavern, on Monday, December 4th, 1922, at 5 p. m.

Dr. Elliott moved that the minutes of the last meeting be approved as printed in the Bulletin. Carried.

The Secretary read several communications and bills. The bills having been approved by the Board of Trustees, were ordered paid.

The reports of the Secretary and Treasurer were read, as published in the Bulletin, and upon motion of Dr. Gorsline of the Board of Trustees, were accepted and approved as read.



The time having arrived, Dr. Shipp moved that we proceed with the election of officers for the ensuing year. Supported and carried.

The presiding officer appointed tellers, Doctors Gething, Putnam and Shipp.

Nominations were called for the office of President, and Dr. Shipp placed in nomination the name of Dr. Thomas Zelinsky. There being on further nominations, Dr. Marsh moved that the nominations be closed, that the rules be suspended, and that the Secretary cast the unanimous ballot of the Society for the office of President. Supported and carried unanimously. The Secretary announced 19 ballots cast, and declared Dr. Thomas Zelinsky elected.

Nominations were called for the office of Vice President. Dr. Gorsline nominated Dr. A. F. Kingsley; Dr. Marsh nominated Dr. E. M. Chauncey. There being no further nominations, the nominations were declared closed.

Dr. Kingsley, coming in at this time, asked that the nominations be re-opened, upon which he nominated Dr. Geo. A. Haynes of Homer. There being no further nominations, the nominations were closed and tellers instructed to collect the ballots. There were twenty-five ballots cast, but no choice, so the tellers were instructed to collect new ballots. Dr. Kingsley withdrew his name. The vote was, Haynes, 19; Chauncey, 5; Kingsley, 1. Upon motion the vote was declared unanimous, and Dr. Haynes elected Vice President.

Nominations were now called for the office of Secretary and Treasurer. Dr. Eggleston nominated Dr. T. L. Squier. Dr. Wilfrid Haughey moved that the nominations be closed, that the rules be suspended, and that President cast the unanimous ballot for Dr. Squier as Secretary and Treasurer. Supported and carried. Dr. Kingsley cast 26 ballots, and declared Dr. Squier duly elected Secretary and Treasurer.

Nominations were now in order for delegates to the State Medical Society, two to be elected. Dr. Shipp nominated Dr. C. S. Gorsline. Dr. Haughey nominated Dr. W. S. Shipp. Dr. Kingsley moved that the nominations be closed, that the rules be suspended and that the Secretary cast unanimous ballot for Doctors Shipp and Gorsline. The Secretary cast 26 ballots, whereupon the President declared Doctors Shipp and Gorsline as delegates to the State Society.

Nominations were now in order for alternate delegates. Dr. Gorsline nominated Dr. E. L. Parmeter. Dr. Marsh nominated Dr. W. L. Godfrey. Dr. Gorsline moved that the nominations be closed, that the rules be suspended, and that the Secretary cast the unanimous ballot of the Society for Doctors Parmeter and Godfrey. The Secretary cast 26 ballots, and the President declared Doctors Parmeter and Godfrey elected.

There being no further business to come before the Society, the new officers were installed, and the Society adjourned to the banquet room. Present at the meeting, 26; at the banquet, 62.

Following the banquet the Society once more adjourned to the bridge room, where some clever interpretative dances were given by girls from N. S. P. E.

The address of the evening was given by President Paul F. Voelker of Albion College. In a manner which held the attention of all he talked on "Wheels in the Head." After a rising vote, expressing to Dr. Voelker the appreciation of the Society, the meeting adjourned.

Wilfrid Haughey, Secretary.

## OAKLAND COUNTY

A meeting of the Oakland County Medical Society was held January 3rd, at the Board of Commerce, Pontiac.

Our meetings this year are to be held bi-monthly.

A three months' advance schedule is being issued to all members, and some real interesting papers are contemplated. Alternating every two weeks, local and foreign talent will be employed.

A questionnaire issued two weeks ago revealed a great many ailments in the County Society, as well as in the Society's Components.

A most interesting, and highly instructive paper was read at this time by our guest, Dr. Phil Marsh of Ann Arbor on "The Dietetic Treatment of Diabetes." "Allen will get you if you don't watch out!"

A brisk cross examination of the defendant was immediately instituted, which only adds to the compliments Dr. Marsh has already received on his work.

F. Baker, Secretary.

The annual meeting of the Oakland County Medical Society held at Pontiac Dec. 21, 1922, was well attended. No papers were read.

The election of officers resulted in placing Dr. Daniel G. Castell in the presidential chair. The other officers elected were:

Vice president, Dr. Frank B. Gerls; secretary, Dr. Fred A. Baker; treasurer, Dr. Robert H. Baker; directors, Dr. A. Y. Ferguson, Dr. J. J. Murphy.

Delegate to state convention, Dr. Geo. Raynale. Alternate, Dr. P. D. Hilty, (both of Birmingham).

Much concern was evinced by the members in a rather heated discussion of a proposed ordinance providing for the examination of all persons handling food in the city.

The ordinance in effect would give perhaps a better line on venereal disease in the several restaurants in the city, although not effective in lowering the incidence of the disease in these places. A committee was appointed by the chair to meet with the city officials making up the ordinance committee, and voice a strenuous opposition against making any such ordinance effective.

The program for the following year will be outlined in the presidential address to be delivered to the society at its next meeting two weeks hence.

FREDERICK A. BAKER, Secretary.

## Book Reviews

A TEXT-BOOK OF HUMAN PHYSIOLOGY. A. P. Brubaker, Jefferson Medical College. Seventh edition, 833 pp., 367 illustrations. P. Blakiston's Son & Co., Philadelphia.

This is the seventh edition of a text that has continued to reliably present the important facts of physiology. It is based upon the author's twenty years of study and teaching.

AN INTRODUCTION TO THE PRACTICE OF PREVENTIVE MEDICINE. J. G. Fitzgerald, University of Toronto. 826 pp., price \$7.50. C. V. Mosby Co., St. Louis, Mo.

There has been during recent years a very impressive change in the attitude of the community as a whole to the problems of preventive medicine. Countries, provinces, cities, and towns have, in many instances, given concrete illustrations of their abiding faith in the old adage that prevention is better than cure, by appropriating large sums of money for the purpose of public health.

The banner province of the Dominion of Canada, Ontario, now spends about 2 per cent of its total

revenue in this way. The capital city of that province, Toronto, does likewise. The motto of the New York State Department of Health is: "Public Health is purchasable; within natural limitations any community can determine its own death rate." This motto is being literally applied in these, as in many other places. It is probable that in a short time no province, state or municipality will be found wanting in this important matter.

The time has arrived, however, when in a much larger measure, physicians in general practice must become integral factors in the public health program. Community cleanliness, control of communicable diseases, arrangements for the supervision of milk and water supplies, with adequate provision for a public health nursing service is paid for by taxation. But there is need of the co-operation of the family physician in addition to ensure the smooth running of the public health machine. Full-time public health workers, administrators, physicians, sanitary engineers, public health nurses and others, provide the personnel for the execution of that part of the work for which the organized political unit pays. This additional service should supply the necessary care and supervision of the general health of individuals in the community. For this task no one is so well qualified as the physician in general practice. He can not only take a place, perhaps on a part-time basis, in the organized and official public health work, but what is more important, he can and will, become the supervisor of public health of the individual family.

To outline some of the work of the physician who is to function on the preventive as well as the curative side of medicine is the purpose of this book. It may be found useful by medical practitioners, students of medicine or public health nurses.

**REGIONAL ANESTHESIA—ITS TECHNIC AND CLINICAL APPLICATION.** Regional Anesthesia, by Gaston Labat, M. D. Lecturer on Regional Anesthesia at the New York University; Laureate of the Faculty of Sciences, University of Montpellier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia; The Mayo Foundation, University of Minnesota. With a foreword by William J. Mayo, M. D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, \$7.00 net. W. B. Saunders Company, Philadelphia and London.

Regional anesthesia has come to stay. Therefore a text that sets forth in a clear, concise and dependable manner the principles, technic and detailed instruction for the producing of local anesthesia is to be commended. This is such a text. It imparts all that is of value. Its rules are exact guides. He who observes the instructions advanced will be enabled to successfully employ regional anesthesia in his surgical procedures to the advantage of the patient and to himself.

**TEXT BOOK OF PEDIATRICS.** Prof. E. Freer. Translated by J. P. Sedgwick and C. A. Scherer. First English edition, 917 pages, 262 illustrations. J. B. Lippincott Co., Philadelphia.

This American text translated and edited by a staff of fifteen American collaborators makes available a splendid text on Pediatrics. It is a text, but it also serves as a reference for every doctor. There is no similar volume existant. The work is complete while at the same time there is no loss of space in useless discussion. The subject matter is dependable and the therapeutic measures advised are in line with modern accepted usages.

All in all it is a valued addition to our American literature and will supply our doctors with an authoritative reference.

**OBSTETRICS FOR NURSES.** By Everett Dudley Plass, M. D., Obstetrician-in-Chief, Henry Ford Hospital, Detroit, formerly Associate Professor in Obstetrics, John Hopkins Medical School. Price \$3.50. D. Appleton and Company, New York and London.

The well established modern tendency is to consider obstetrics as including the entire question of the care of the mother for as long as scientific attention is desirable, both before and after the birth of the child. This text-book for nurses is written from this viewpoint, and is therefore a complete guide to the care of the mother throughout this period and in any emergency arising in it. The book gives more than general advice to women about hygienic measures. It is a complete scientific study of the processes of pregnancy, child-birth, and the subsequent return to normal. This study provides clear understanding of physical and other changes which occur, and of the emergencies which may arise and should be guarded against. The book has the practical merit that it fully discusses normal as well as abnormal pregnancy and labor, thereby serving as a practical guide both to the attendant and the mother in all cases.

**THE MEDICAL CLINICS OF NORTH AMERICA** (San Francisco Number), (Issued serially one number every other month). Vol. VI., Number II., Sept., 1922. By San Francisco Internists. Octavo of 254 pages and 49 illustrations. Per clinic year (July 1922 to May, 1923). Paper \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

**THE MEDICAL CLINICS OF NORTH AMERICA** (The St. Louis Number), (Issued serially, one number every other month). Volume VI., Number I., July, 1922. By St. Louis Internists. Octavo of 203 pages and 61 illustrations. Per clinic year (July 1922 to May, 1923). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The St. Louis and San Francisco numbers contain a wide variety of subjects ranging from the old problem of Heart Therapy to the newly recognized conditions such as Acrodynia. Because of the manner in which this material is presented the Clinics should prove a most practical substitute for a visit to their sources.

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